Chemical Week

July 11, 1953

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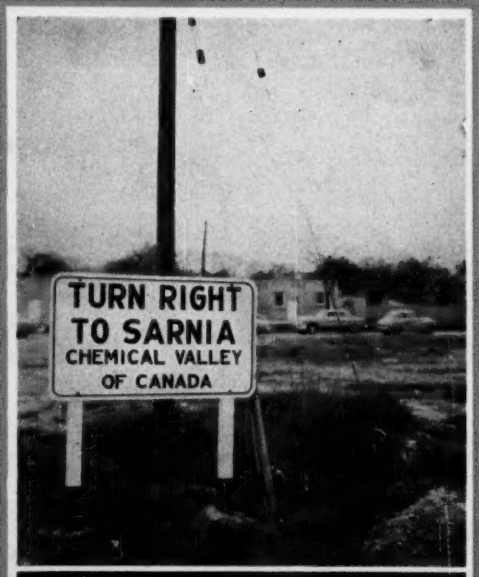

Oil underpins Canada's chemical pride: Sarnia's bustling, fast-building valley . . . . . p. 26

Blueprints in 3-D; the trend is toward model-s ze plants to intercept design errors . . . p. 46

Here's a fruitful, practical way to upgrade desk-bound order-takers to sales-getters . . . . . p. 57

The cheap sulfuric acid days are gone—forever; you'll have to face up to it . . . . . p. 62

Specialty makers back cooperative research to buck long-simmering problems . . . . p. 73

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EPICHLOROHYDRIN

WHEN SOMETHING has been around for a while, like Epichlorohydrin, it's apt to be taken for granted. If you're working with this product, you know what it can do for you; but if, after a first look, you found no immediate use for Epichlorohydrin, you may never have thought about it since. If so—*Take a new look at Epichlorohydrin!*

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(CW)

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Chemical Week

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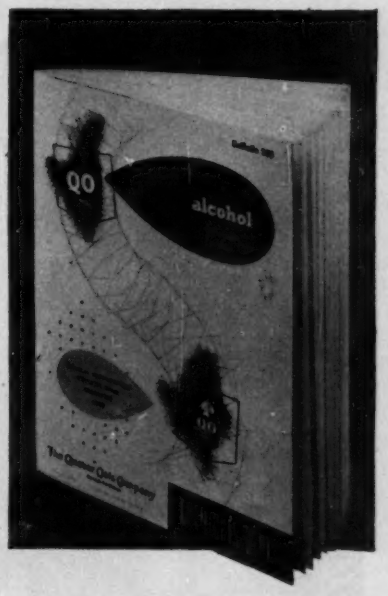
FIND OUT WHERE

Furfuryl Alcohol

FITS INTO YOUR PICTURE



Bulletin 205—just released—gives you useful information on commercial handling, physical data, chemical reactions and established uses of FA* furfuryl alcohol. Find out how FA can serve you efficiently and economically as a resin ingredient, as a wetting agent, reactive solvent and as a solvent for resins and dyes.

*Reg. U. S. Pat. Off.

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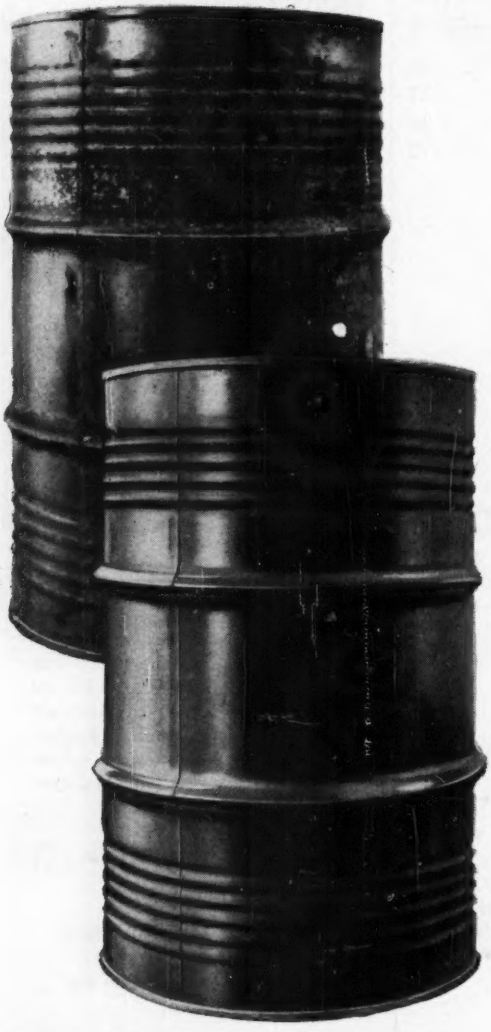
NOW! Better Steel Drums ---Better Protection for Your Products



ORDINARY PAINTED DRUM *(shown at top)* after exposure to weather for one year is badly rusted. Rust was very apparent after only *one week.*

U·S·S RUST-INHIBITED DRUM *(in foreground)* also exposed to weather for a year. There was absolutely no rust on this drum at the end of the test.

U. S. Steel Products introduces a brand-new cleaning process which completely cleans drums of contaminating materials . . . *inhibits rust formation.*

UNITED STATES STEEL PRODUCTS is pleased to announce the development of a new cleaning and finishing process that represents a significant advance in the quality of all steel drums.

The U·S·S process not only cleans drums completely of mill scale and other contaminating materials such as grease, dirt and soot, but also retards rust and corrosion. In addition, the process provides an ideal surface for finishes.

This new process cleans the drums completely . . . doesn't just cover the dirt, scale and rusting areas, leaving unprotected spots when the drum is banged around in handling. You see . . . our rust-inhibited coat is applied just prior to final assembly of the component parts . . . after the parts have been formed, and completely cleaned and descaled; there is no flaking problem.

The complete treatment consists of (1) cleaning the drum parts, completely, (2) removing mill scale and (3) applying a phosphate treatment to the steel surface, which results in a phosphate coating combining with the steel surface . . . inhibiting rust formation on both the inside and outside of the drum and forming an ideal surface for exterior and interior finishes.

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United States Steel Products fabricates Stainless, Galvanized, Tinned, Painted and Decorated drums and pails. Furnished in capacities from 2½ to 110 gallons, with a variety of fittings and openings to fit your particular requirements.

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USS

UNITED STATES STEEL

OPINION . . .

Case Kudos

TO THE EDITOR: . . . I was very pleased to read your news article on the Chemical Market Research Assn.'s project at Case Institute of Technology (*June 20*) . . .

You traced the conception and development of this undertaking in a fine manner . . .

EDWIN I. OPPEL
The New Jersey Zinc Co.
New York, N. Y.

Dampen, Don't Dip

TO THE EDITOR: In Mr. Faller's letter (*June 6*) a claim was made that silver dips would not affect certain [more expensive] types of black antiquing in the recesses of fine silver.

Our experience has been that this finish is generally [the cheaper] silver sulfide . . . will be removed by dip silver cleaners.

It is for this reason that on our labels and the instruction leaflet accompanying each bottle of Instant-Dip, we advise that our product should not be used on an antiqued finish . . .

Our demonstrators . . . recommend, where the customer insists on using this product on an antiqued finish, that a cloth dampened with the cleaner be used so that only the raised portions of the silver will be detarnished . . .

ARNOLD KNEITEL
Lewal Industries, Inc.
New York, N. Y.

Thumbs Up, Thumbs Down

TO THE EDITOR: . . . I have read with interest the letters concerning silver cleaners . . . but I was disappointed to notice that you made no mention of the instant cleaners like Magic Leaf. These are mainly magnesium metal . . . are simply put in a dishpan with a synthetic detergent and they remove tarnish from silver. I have used one satisfactorily for some time . . .

Strangely, this type of product has the *Good Housekeeping* "Seal of Approval" although it will not polish

CW welcomes expressions of opinion from readers. The only requirements: that they be pertinent, as brief as possible.

Address all correspondence to: W. A. Jordan, Chemical Week, 330 W. 42nd St., New York 36, N.Y.

This statement in your planning gives you the assurance of a dependable, efficient handling of all of your filtration requirements. Eimco filters are not catalog items as such. They are custom designed and built to suit your specific process requirements. Designed by Experienced Engineers — built by craftsmen in the Country's largest and most modern filter plant.

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5TH IN A SERIES

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from the EMULSOL lab

A thought or two about things new and interesting in the field of surface-active chemistry . . .

hot new freeze
Vegetable-fat frozen desserts, the smo-o-o-th kind, are "hot" sellers these hot days . . . and really giving cow-ventional ice cream a run for the ala mode. Reason for their success is improvement via edible emulsifiers EMCOL RHT or MST . . . which are also used in quality controlled manufacture of frozen custard and ice cream.

brass knuckles in velvet
The potent, germicidal, anti-odor action of velvet textured, gentle-on-the skin crystalline EMCOL E607 makes it a wonderful jack-of-all-sales-advantages in many cosmetics, proprietaries and sanitation specialties. Cation-active, it takes chlorophyll green, too. Can it go to work for you?

killer with know-how
The workhorse of the pesticide industry, EMCOL H-Series emulsifiers have proven themselves over four growing seasons. Their success in handling more insecticides and herbicides, under more varied conditions than any other product, has won them "Croix de Guerre" acclaim among those who fight to conserve world supplies of food and fiber.

YOUR PROBLEM IS NEXT . . .
If you've a production headache that might respond to the proper surfactant, sit down and give us the details on your letterhead. We may have the answer sitting "in stock". . . or perhaps we'll be able to invent it for you. Write Department CW.

THE EMULSOL CORPORATION
59 E. Madison · Chicago 3, Ill.

OPINION . . . . . .

silver to a luster . . . and, the maker concedes, can remove the antiquing . . . And when stainless steel touches silver in such a bath, there's a little corrosion. These were the main complaints *Good Housekeeping* has against the newer "instant dips" . . .

In fact, it seems strange to me that the "instant dips" should be condemned . . . that remarks should be made in the article in the magazine about fine silver deserving the extra care of polishes . . . while the "OK" is given to the other type of labor-saver . . .

SAMUEL A. FELDSTEIN
Chicago, Ill.

Seal of Approval

TO THE EDITOR: Congratulations ! ! !

It is most encouraging to find someone who stands up to *Good Housekeeping* and their alleged Seal of Approval . . .

You certainly "published in full (*Opinion, June 20*)—" the letter from Mr. Mayes of *Good Housekeeping* in accordance with his request.

Do not, under any circumstances, let my subscription expire as long as you continue this editorial policy . . .

R. E. RUHOFF
Manager
Pyrolle Products
Portsmouth, O.

Pessimists Arise

TO THE EDITOR: . . . You started off your news article "More Salesmen, More Sizzle" (*June 6*) with the sentence "Salesmen are pathological optimists." Could be . . . and I'll wager that most people would wear such a label boastingly . . .

As it happened, just after I read that report of yours on sales prospects, I came across the enclosed newsletter, "Arizona Progress," published by the Valley National Bank of Phoenix.

It struck me as being amusing and thought-provoking . . .

R. L. MAYNARD
Denver, Colo.

Thanks, Reader Maynard. Some choice and chewy excerpts:

"Pessimism, like isolationism and conservatism, has become a term of opprobrium in recent years. It is regarded as a form of disloyalty not in keeping with the chamber-of-commerce spirit or the 'glorious destiny' about which orators prattle. Actually, a pessimist is a realist. He expects the worst—and is seldom disappointed. He is not given to impractical gambles or wishful thinking.

"Never smug or contented, he is the fellow responsible for most of our progress. He says, 'That is a heck of a way to run a railroad' and then does something about it.

"It is the optimists who do most of the damage . . . They are . . . responsible for impossible expectations . . . shattered hopes that develop. They . . . get us in over our heads—or our pocketbooks.

"In selecting a person to manage our investments, act as a bridge partner or even fix the plumbing, shield us from those who operate on the theory that the goose hangs high and everything is hunky-dory in this, the best of all possible worlds. Give us a lad with ulcers and vinegar in his veins.

". . . It is sheer suicide to be an optimist in a world full of such hazards as the atom bomb, communism, inflation, deflation, insects, viruses, bacteria, allergies, bathtubs, cigarettes, taxes, etc.

"Optimists are people who sell things to pessimists. The former have the enthusiasm, the latter have the money."—ED.

Encomium

TO THE EDITOR: . . . Whole-hearted congratulations . . . on the excellent publication you continue to offer . . . the chemical industry. . . .

C. V. B. LAMOTTE
LaMotte Chemical Products Co.
Baltimore, Md.

Europe Looks at Tariffs

TO THE EDITOR: Your excellent coverage of the tariff question, such foreign developments as Montecatini . . . prompts me to write you a commendatory letter. Just last week I returned from Europe, . . . where I had the privilege of talking with industrialists of many nations. . . . I visited the exposition of process equipment in Paris . . . traveled in West Germany.

Business is not bad, but worse than it should be, and the major reason for its poor state of health is uncertainty—uncertainty about our eventual trade policy. Many asked me, "What will Eisenhower do about tariffs?" I had to answer that I didn't know, nor did anyone else—perhaps not even Eisenhower himself.

Because they don't know what tomorrow will bring, European businessmen are afraid to build plants . . . to make long-range plans of any kind. They are also hamstrung by the power of labor. . . . One West German chemical official told me that labor's power under communism could be no greater than it is in his country today. . . . And throughout Europe reconstruc-

(Advertisement)

CHEMICALS OUTLOOK

July 1953

This news bulletin about Wyandotte Chemicals products and their applications is published to help keep you posted. Perhaps you will want to route these and subsequent facts to other interested members of your organization. Additional product information, through Wyandotte research and technical service facilities, and trial quantities of Wyandotte products are always available upon request. May we serve you?

KREELON CD SHOWS MERIT IN TEXTILE-FINISHING OPERATION

Kreelon*CD, which combines the advantages of an alkylarylsulfonate with a detergency promoter in one homogeneous product, is reported to give excellent performance in soaping-off operations.

When dyeing or printing with certain classes of dyestuff, extraneous color which is not converted to color within the fiber is formed. This must be removed along with print gum.

The extraneous color, being in the form of an insoluble pigment, behaves like a soil and can be removed by a detergent treatment. The usual method employed is soap. Drawbacks are water hardness and, also, acidity within certain temperature ranges, both of which tend to precipitate soap. Kreelon CD is not precipitated by water hardness or by acidity, and thus overcomes these disadvantages.

MORE DATA FOR FERTILIZER MANUFACTURERS

Additional benefits of Kreelon 4G in mixed fertilizers (from those previously reported here) which may be important to you:

1. Being one of the heavier of the surfactants currently offered, with a particle size and density which closely approximate that of the dry ingredients used in fertilizer formulations, Kreelon 4G offers more uniform mixing and maximum dispersion in the dry mix. This appears to be the most ideal state for utmost effectiveness.
2. Greatly reduced storage space from this higher density has been welcomed by manufacturers, who, in most cases, have storage problems.

Upon request, a Wyandotte representative will work with you to help incorporate Kreelon 4G in your fertilizer processes.

CAN YOU USE BENZENESULFONAMIDE AS AN INTERMEDIATE, PLASTICIZER, PLATING-BATH ADDITION AGENT?

Wyandotte Benzenesulfonamide — $C_6H_5SO_2NH_2$ properties are: Refined grade — appearance, white crystals. Purity, 98.0% min. Water, 0.1% max. Iron, 0.01% max. Melting point — 150° C. min. It is used to advantage as an intermediate in the manufacture of germicides, dyestuffs, pharmaceuticals, and plastics. As a plasticizer for certain types of resins, such as phenolics, urea composition and cellulose esters, it imparts such characteristic properties as high gloss, toughness and hardness. Benzenesulfonamide has also been used as a plating-bath addition agent.

Write us . . . you may have an entirely new use for this product, or a requirement which Benzenesulfonamide will meet. Let us work with you . . . samples available.

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tion and rearmament are depressing the civilian economy. . . . The various countries' onerous but necessary trade and currency restrictions also hamper industry, but industrial leaders look upon the U. S.'s trade policies as the most important single factor in their economy. They have to trade, and if we wall them out we'll drive them into Russia's arms. . . .

WILHELM STOLL
Detroit, Mich.

Calm, and Sane

TO THE EDITOR: . . . There has been a lot of loose thinking, to my mind, going on in Washington lately about research and . . . the suggestion is that research is something that is either unnecessary or it must be so practical that you can tell someone to "invent something next Tuesday."

I would not deny that the very word "research" has become a popular thing . . . it is fashionable to be in favor of research . . . it is sinful to be against it. Perhaps a good many people . . . and a lot of companies . . . have become overwhelmed by the glamor of it all . . . its fashionability . . . the pleasant window-dressing it affords.

But just as wrongly . . . there are too many who sneer and scoff. Pure research is pure . . . it never did anyone any good. That's just as fallacious as the other dreamy-eyed type of reasoning. . . .

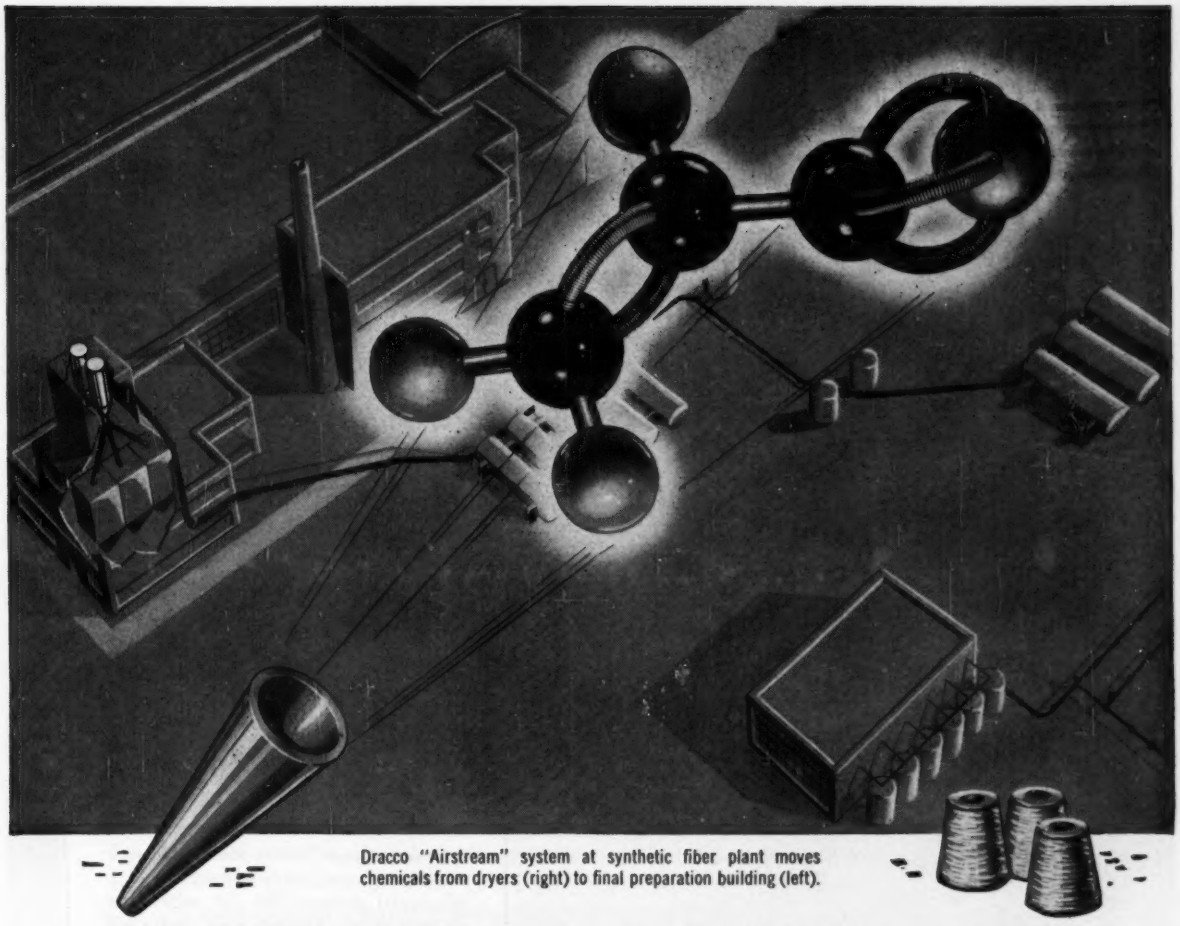
We have been living—and I might say, parasitically—off the basic, sound work that has been done in Europe for years. . . . It is about time—perhaps the time has even passed—when we as a self-respecting nation can carry on in that fashion. . . .

We must have research—we must have a sound approach—we should not, in my opinion, go overboard on the idea that just dollars will serve all our needs and answer all our problems. . . . But we should not, either, jettison all sound research planning to save a few pennies. . . .

We, in this country, are sometimes too overcome and too impressed by fads . . . then the pendulum can swing the other way and we believe nothing good about anything. . . . That could happen to research. . . . It is the responsibility of all of us in the chemical industry . . . who know the worth of research to make the facts known.

Better we should waste a few dollars than not unearth knowledge. . . . I hope that your magazine will continue to appraise the situation calmly and sanely. . . .

M. R. HURTHLEY
Niagara Falls, N. Y.



Dracco "Airstream" system at synthetic fiber plant moves chemicals from dryers (right) to final preparation building (left).

JET-PROPELLED CHEMICALS FOR MIRACLE FIBERS

Handling Problem—To move powdered intermediate chemicals some 600 feet from primary processing to final processing at a large synthetic fiber plant. System must be simple, fast and economical—and must handle materials without loss or contamination.

Dracco Solution—Application engineering by Dracco proved that the best solution for this materials handling problem was a custom-engineered, automatic Dracco "Airstream" Conveyor. This system (in diagram form) is shown above.

Result—The Dracco "Airstream" Conveyor provides simplified, accurate handling which eliminates expensive manual methods. Self-cleaning, it guards the required high purity of chemicals for producing modern "miracle" fibers.

Materials from primary process dryers are now weighed, fed into the "Airstream" system—then jet-propelled directly to final preparation tanks. Transported at five tons per hour through the enclosed, dust-free system, there is no chance for waste or contamination.

Dracco engineers will be glad to explain how the cost-cutting "Airstream" technique can simplify your bulk materials handling problem. Write or call today.

DRACCO CORPORATION
4080 East 116th Street • Cleveland 5, Ohio

"Bulk Materials Handling with 'Airstream' Conveyors" is the title of Dracco Bul. 529. Request your copy now.

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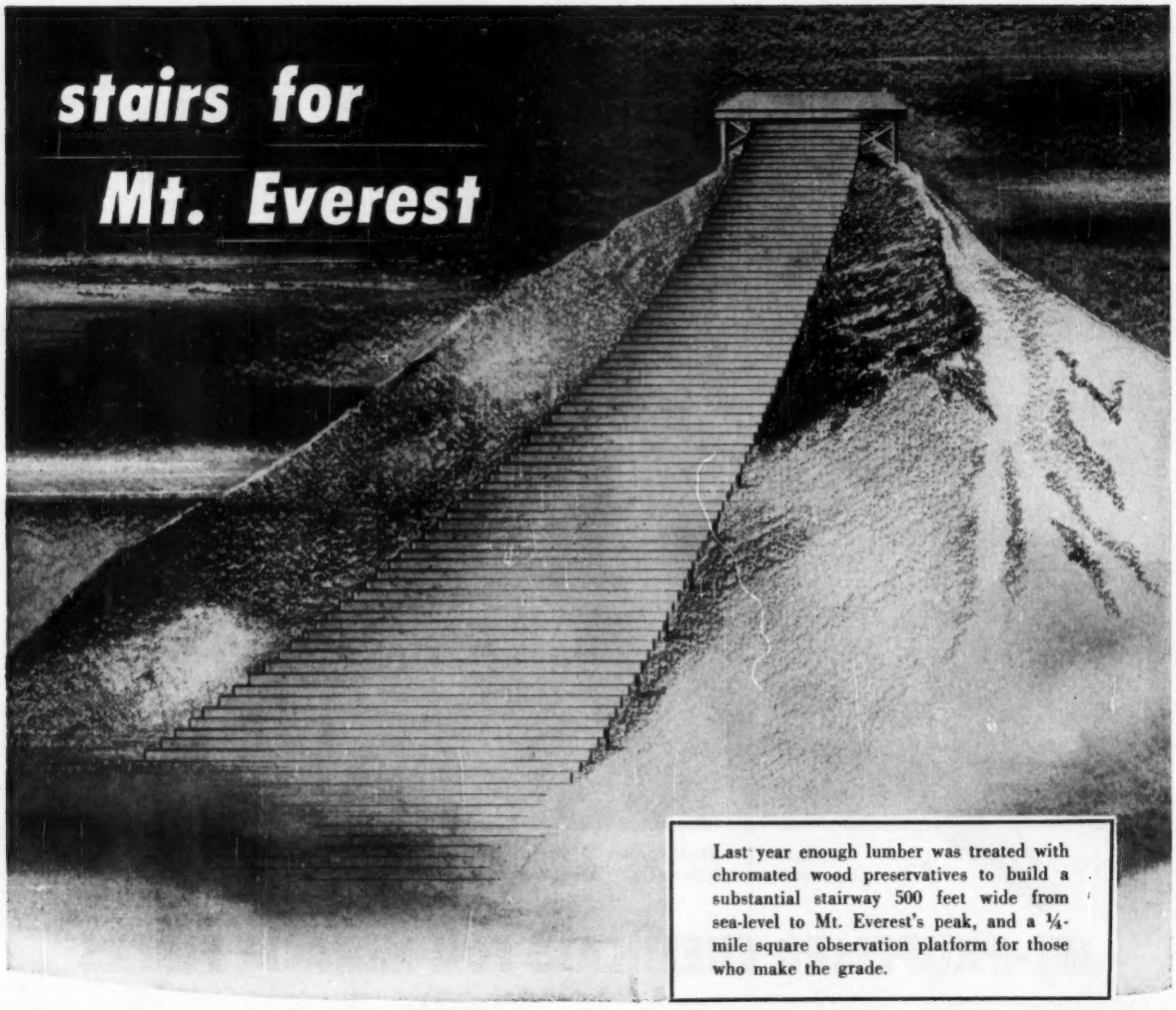
Airstream CONVEYORS • DUST CONTROL EQUIPMENT



Last year enough lumber was treated with chromated wood preservatives to build a substantial stairway 500 feet wide from sea-level to Mt. Everest's peak, and a ¼-mile square observation platform for those who make the grade.

Although few of us would ever have the opportunity to use such stairs, most of us must face very real problems of insect and fungus attack on wood every day.

Lumber treated with water-soluble chromated preservatives has up to seven times the life of untreated wood in home, farm and industrial applications. Treated wood porches and steps last a lifetime—treated structural lumber repels attack by termites and fungus—treated fence posts don't snap off at the ground line when "Bossie" scratches her back. In any use where wood is practical, and particularly in contact with or near the ground, chromated wood preservatives extend useful life.

During 1952, over 130 million board feet of lumber were treated with seven million pounds of proprietary chromated preservatives, providing clean, odorless, paintable surfaces. Some of this lumber was treated under pressure at commercial plants; some in small dip tanks with hand-mixed preservative solution. Mr. & Mrs. America and industry are realizing the benefits of longer wood life—conservation of resources and its counteracting effect on shrinking dollar value.

After exhaustive field tests, the American Wood Preservers' Association has accepted as full standards all chromated preservative formulations submitted. Several of these formulations containing sodium and potassium chromates and bichromates are available for licensing.

It's doubtful that anyone will ever attempt construction of stairs for Mt. Everest, but it's a fact that Mutual has a wealth of experience with chromium chemicals. Wood preservation is but one of the many expanding fields of application for these important compounds. Our technical staff will give careful consideration to your inquiries.

MUTUAL CHEMICAL COMPANY OF AMERICA

SINCE 1845

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Plants: Baltimore • Jersey City

NEWSLETTER

Majority control of Arthur D. Little, Inc. (Cambridge, Mass.) is, as of late this week, owned in a sense by its employees.

Here's how it came about: for years the company has contributed to the Memorial Drive Trust, a pension fund for its employees. The fund had $1.3 million in search of a sound investment. Massachusetts Institute of Technology, which has owned a big slice of the firm since Dr. Little died in 1935, agreed to sell. The deal was consummated, and the employees —through their pension trust—are hence part-owners of their employer firm.

•

One plant's ready to roll this week, and another is a gleam in its parent's eye:

• Mathieson Chemical's $3-million hydrazine plant at Lake Charles, La., has been completed. Major uses of the product are military, but already several promising civilian outlets are developing.

• Du Pont is studying the possibility of a $10-20 million Dacron fiber plant at Old Hickory, Tenn. Scale-tipper: whether demand for the new fiber outstrips current production capacity.

•

If metal protection is your meat, you'll want to follow the exhaustive research program just initiated by the Navy. Bakelite's wash primer (Chemical Industries, Dec. '46) prevents rust, protects metal on ships for long periods, is an ideal hull undercoating, and in conjunction with ordinary paint gives a finish that lasts twice as long as paint alone.

But nobody can figure out exactly why. Now Rutgers University and Brooklyn Poly will undertake studies for the Navy.

•

After firing a few warning shots over the bow, the American Dental Assn. last week blasted straight at toothpaste and powder makers.

Said the ADA in a well-publicized editorial: advertisers are "riding roughshod over the public" . . . ignoring scientific evidence. "Many of these superclaims are on the same low level as those made for discredited cancer cures . . ." No dentifrice now on the market does anything except help the toothbrush in cleaning the accessible surfaces of the teeth, adds FDA.

•

The trend in chemical labor contracts is away from escalator and cost-of-living clauses. Latest signpost is Parke, Davis & Co.'s compromise settlement of its 46-day strike. While the CIO Gas, Coke & Chemical Workers gave up demands for all but a cent or so of new gains, the company agreed to freeze all 19¢ of past escalation increases into the basic wage rates. Supplanting future cost-of-living increases in the new two-year pact are "annual improvement factor" rises of 4½¢ (last May 1) and 5¢ (next May 1).

•

Hearings will start next week on legislation calling for sale by the government of General Aniline & Film. About a week will be required for the Dept. of Justice and various litigants to be heard.

But don't expect early action. Many—especially GAF officials—

want the company sold; but there are sticky constitutional problems, and Congress isn't likely to act on the subject this year.

•

Also unlikely to see early action is the Eisenhower-endorsed factory inspection bill, now bogged down in a House committee snafu. The bill, which would give Food & Drug Administration inspectors the authority to inspect food and drug plants without the management's consent, was reported by the Interstate and Foreign Commerce Committee two weeks ago. But so far the committee has been unable to agree on a review and rewrite of the report—which in this case is considered more important than the bill itself, since it will interpret the bill as to what the inspector can inspect once he's inside the plant.

Some committee members, led by Chairman Wolverton (R., N. J.), want to leave the language general—not try to cross all the t's and dot all the i's. But other members want the authority fully spelled out.

•

Having spent five days gingerly juggling a hot potato—battery additive AD-X2—the Senate Small Business Committee has dropped it again, will leave it alone until the National Academy of Science's findings are made public—perhaps next winter.

Only definite action so far from the hearings: Committee Chairman Thye (R., Minn.) is asking Postmaster General Summerfield to expunge his department's suspended fraud order against the additive.

•

Eli Lilly won a round last week against the New Orleans supermarketing Schweggmann Bros., irreconcilable foes of "fair trade" price-fixing. An injunction against the supermarket chain was upheld by a split (2-1) decision of U. S. Circuit Court of Appeals.

John Schweggmann says he will appeal to the U. S. Supreme Court, arguing that the federal McGuire Fair-Trade Act and the state law are unconstitutional as applied to retailers not signing price contracts.

Author of the federal act, ex-Rep. John McGuire (D., Conn.), is now special representative for the National Assn. of Retail Druggists.

•

Congressional budget-trimming has put an end to underground coal gasification tests conducted jointly at Gorgas, Ala., by the U. S. Bureau of Mines and Alabama Power Co.

Experiments were continued beyond the latest reported tests (CW, Dec. 20, '52), and the bureau is expected to issue a concluding report within the next three months.

•

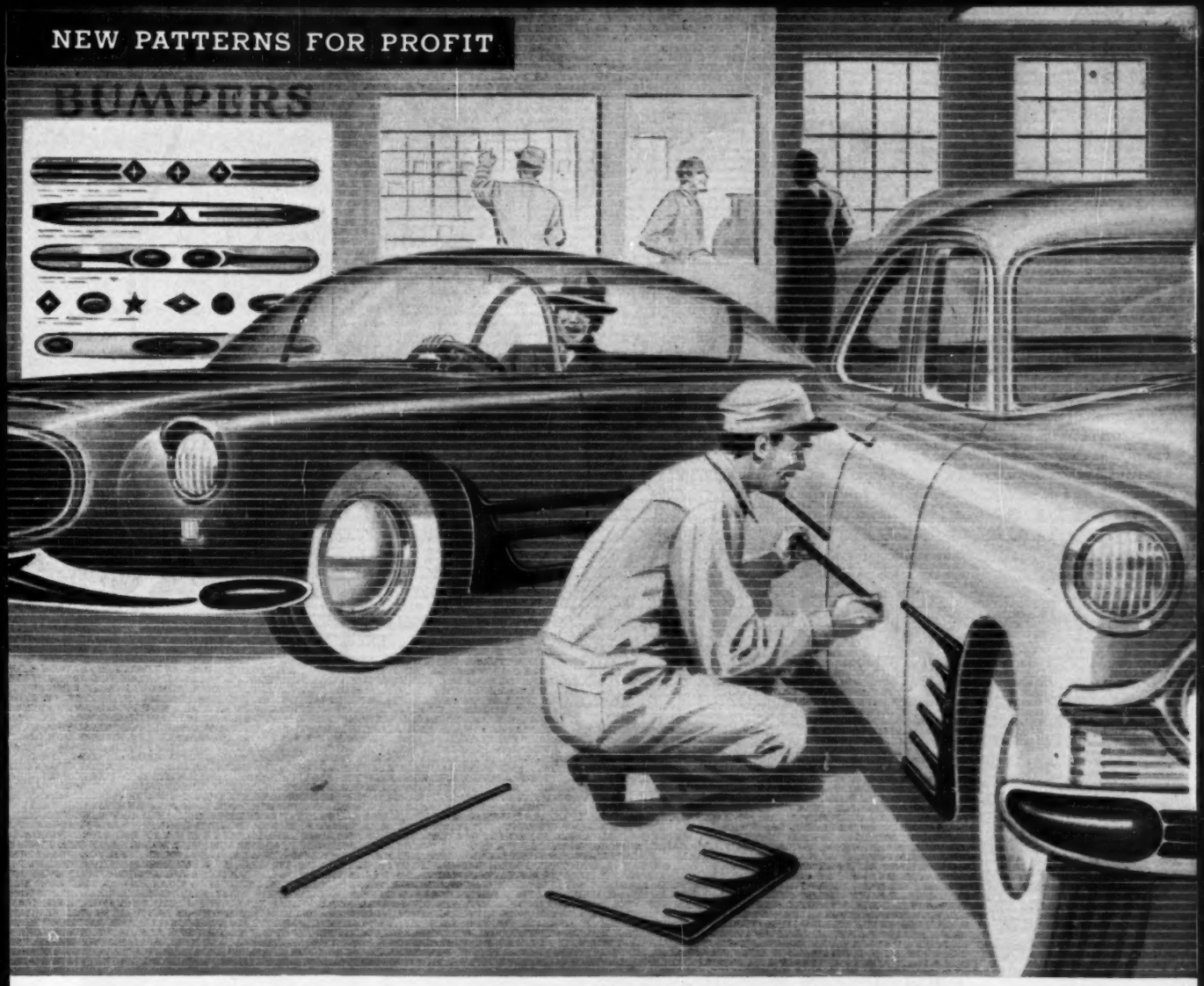
News reports from three different states highlight the legal difficulties surrounding the use of pesticides:

• In Indiana three Noblesville farmers were awarded $1,500 in damages (they had asked for $5,000) because chemicals sprayed by an airplane wafted into their pasture and cut their cows' milk production. Cicero Canning Co., the defendant, had sprayed adjacent tomato fields with a solution containing copper oxide.

• In North Carolina a farmer is suing Sears, Roebuck for $22,500, alleging both property damage and personal injuries from a weed killer supplied by the mail order firm.

• In Arkansas an aircraft spray service has gone to court to protect state regulations governing use of 2,4-D. J. O. Dockery, the plaintiff, charges that the laws exceed the state plant board's authority.

. . . The Editors



Would "Cushion Bumpers"

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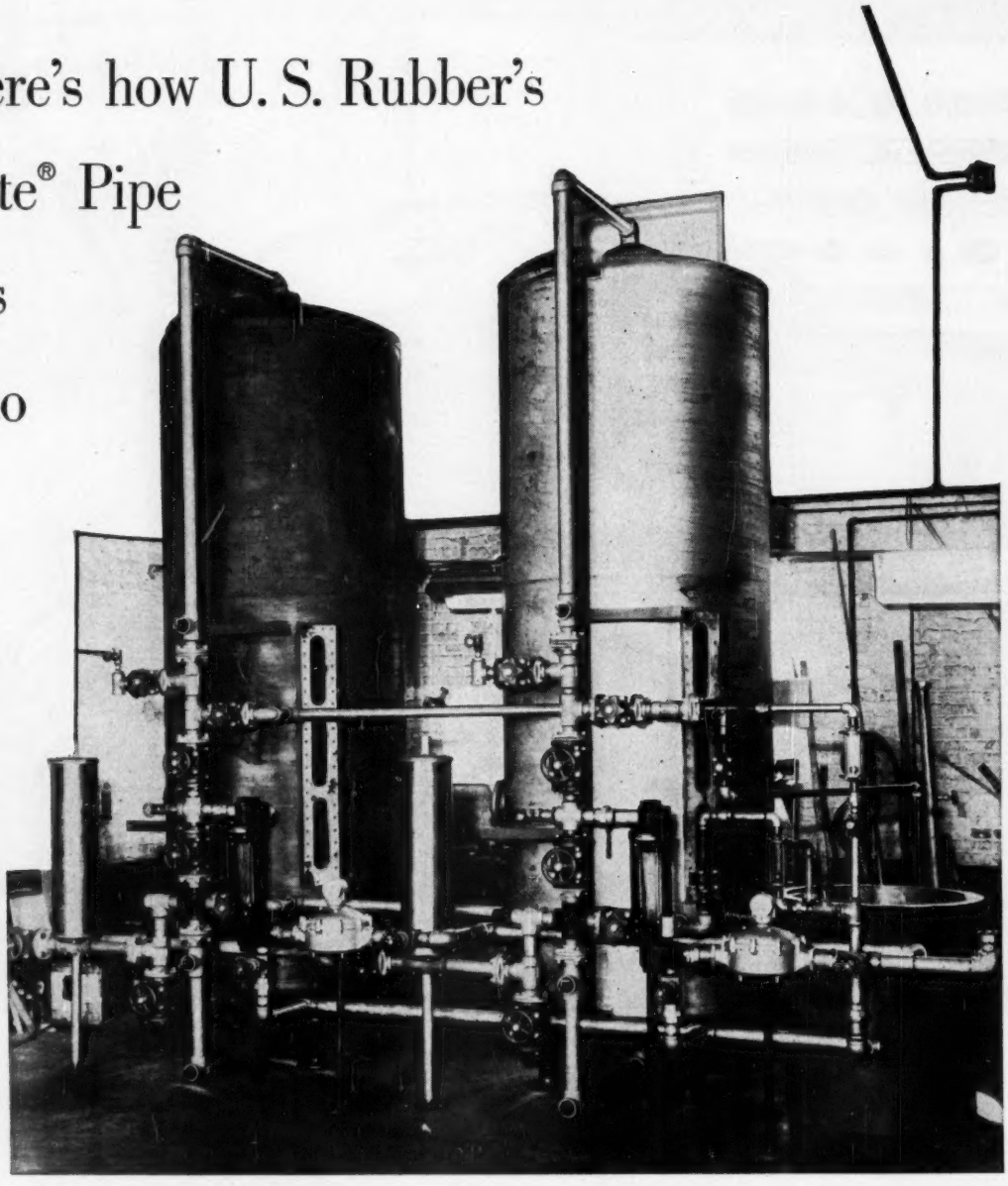

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BUSINESS & INDUSTRY . . .

All Over but the Voting

Following hearings that touched on most phases of the synthetic rubber production and marketing picture, the Senate Banking Committee was scheduled this week to report for Senate action a bill allowing sale of the government-owned synthetic rubber plants.

And, since the House of Representatives has already voted similar legislation, there's a good chance that the plants may finally move from public to private ownership.

What will such a transfer bring? Undoubtedly it will catalyze technical improvements. In addition, it could not only temporarily dislocate but also fundamentally change the rubber distribution picture.

The 28 plants in question were built at a cost to the government of $518 million, though their operator, the Reconstruction Finance Corp., figures they are presently worth $172 million. It's almost sure that not all the facilities will be sold; some plants like the butadiene-from-alcohol units at Kobuta and Louisville would hardly be sold at any price that would give the government much return on its investment (*CW, June 13*). Unless these could be leased (as has been proposed by alcohol-producing Publicker Industries), they would go into stand-by. The proposed terms of sale of the plants would prohibit competitive operation by the government of any unsold plants except in time of emergency.

Fight Focus: One point to watch in Senate debate will be a provision calling for approval by Congress on any sale contracts. Despite the fact that the House roundly defeated the only test of such a provision, it might be seriously considered by senators.

It's sure, though, that the bill to be reported out by the Senate Banking Committee will not contain such a proviso. The committee chairman, powerful Homer Capehart, has been vocal in his opposition. To witnesses at the hearing, he commented: "I can well see a year or two or three years' delay" if approval by Congress is required.

His reason: present Senate debate rules would allow contracts to be talked to death by senators who oppose private ownership of the plants in general, or by those sympathetic to the viewpoint of any rejected bidders.

For Disposal: Under the terms of the bill passed by the House, a three-member board will be set up to sell the plants. The commission would call for bids and negotiate sale before June, 1954.

The commission will have no easy job. But the most pressing problem will be this: synthetic rubber is naturally big business, but it shouldn't (from the antitrust standpoint) be too big. How now can the disposal be handled so that no small user will be discriminated against—by not having his own captive production—and without dismembering the industry into a myriad of inefficiently-small units?

HARRIS & EWING

CAPEHART: Debate now, not later.

Bottle Marriage?

Owens-Illinois Glass Co., a leading maker of glass bottles and other containers, is proposing an alliance with Plax Corp., a big name in manufacture of plastic bottles and other plastic products—but the U.S. Dept. of Justice is not holding its peace on the question of whether the marriage should take place.

On the contrary, the department's antitrust division is speaking up vociferously in opposition to the match. Victor H. Kramer, division attorney, is telling the U. S. District Court in Toledo, O., that if Owens-Illinois invests $8 million in Plax, the result would be "great potential impact on competition in the plastic container industry."

In reply, Fred H. Fuller, counsel for the glass firm, denies that there would be any restraint of trade if the purchase of 250,000 shares of Plax stock goes through. He contends that the great bulk of Plax production is in thermoplastic film, sheets, rods, tubes and similar products, and that the only point of conflict would be in polyethylene "squeeze bottles," which he says "have a limited adaptability for use in the cosmetics trade."

Owens-Illinois brought the matter up in court by asking judicial approval of its proposed purchase of 50% of Plax common stock (49% to be held in the name of Owens-Illinois, 1% to be sold to executives of each company). The glass concern took this precautionary step because it doesn't want to violate either the antitrust laws in general or the decree in the 1942 Hartford-Empire Co. antitrust suit, in which Owens-Illinois was a major defendant.

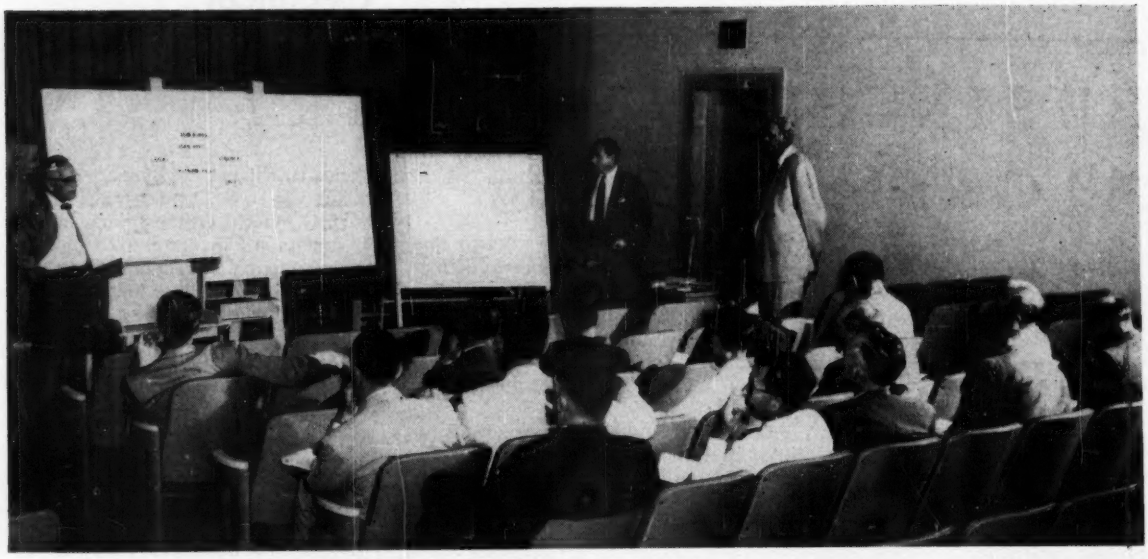
Federal District Judge Frank L. Kloeb, who presided at the Hartford-Empire trial, is also hearing arguments on the current case. His only comment on the issue before closing his court docket for summer recess: "It's difficult for me to vision that the purchase of 49% of the common stock in a company doesn't contemplate interference with its management."

Speaking for Plax, attorney Jerrold C. Van Cies explained that his company, whose 1952 sales grossed $9 million, needs new capital to buy property of its own in the East and assembly and distribution plants in other parts of the country. Since there's never been a dividend on Plax stock, a public offering wasn't considered "plausible."

Kramer cited two points in asking the court to forbid the deal:

- O-I would not have incentive to compete on interchangeable products.
- O-I would drop tentative plans to go into plastic bottle manufacture.

This is a second appearance in federal courts this year for Plax. Several months ago, its district court victory over the Elmer E. Mills Corp. in a squeeze-bottle patent suit was reversed by a Circuit Court of Appeals (*CW, May 9*).



MANAGEMENT DEVELOPMENT IN ACTION: Beutel (left, standing) finds informality the key to progress.

It's Informality That Counts

Backbone of Dow's mode of developing latent managerial skills is the practice of holding frequent informal group meetings. It has many advantages over farming out individual members for short cram courses on how to handle others, how to guide themselves. The biggest benefits: everyone stands to profit instead of a chosen few; perspectives are broadened; teamwork is gained.

This week A. P. "Dutch" Beutel, vice-president and general manager of Dow Chemical Co.'s Texas Div., looks back on a five-year alliance with Dr. Wm. C. Ford, head of the Psychological Service Institute, Houston—an alliance aimed at exploiting the psychological aspects of organization. Says Beutel enthusiastically: "While a well-rounded management development program involves many phases of training and development, we've found informal group gatherings the big difference in developing managerial effectiveness." Started in Dec. '50, they're still going strong.

Ordinarily when the members of an organization's management team get together as a group, it is either in a formal business meeting or a social gathering. Very seldom do they rub elbows outside, swap ideas on general principles of management, trends in management thinking. But says Ford, in so doing they're limiting themselves. Tossing ideas back and forth is the only quick way to gain perspective. The results are invaluable.

How It Works: It's important that such meetings be held away from the plant in order to foster informality, warn Dow officials. Guest speakers from business and academic circles—all authorities in a particular phase of management—are invited to attend, inculcate different ideas, other points of view.

Groups are strictly limited to one level of management, come together in five or six 3½-hour sessions every month. Basic approach on all topics is from the general to the specific—from the purest theory to applications directly linked to local operations.

At present, only assistant general managers of the plant attend discussion meetings. The first year, guest speakers were chosen by Ford and Beutel; since then it's been a group decision.

Representative topics include: techniques for the stimulation of human effort, (moderator, W. W. Finlay, of Southern Methodist University); manpower utilization (moderator, Wm. R. Spriegel, University of Texas); communications; the factors to be considered in evaluating the organization of executive personnel; costs (moderator, Fred V. Gardner, industrial management consultant, Milwaukee, Wis.); and the objectives of the Dow Chemical Co., its management organization, and how the Texas Div. fits in. This year's topics: departmental objectives and organizational structure.

Results Show Up: Dow and Ford had fond hopes their program would reap results. They hoped to get:

- More objective thinking on the part of those attending in coping with their own responsibilities;
- Better over-all team-work;
- Greater understanding and appreciation of one another's work;
- A broader framework of thinking in which every man could analyze and attack his respective problems;
- Interest in periodic discussions, and a desire for continuing them.

Checking up in an anonymous poll taken recently, Beutel found his hopes realized. Backing him up, 81% of those quizzed say they now do more objective, less personal thinking about their responsibilities; 76% think they've gained better teamwork; 93% are confident they've developed a wider spectrum of understanding; 91% o.k. continuation of the idea of "getting together informally"; and 65% say they have a better understanding of the other fellow's point of view.

It Leads and Leads: Tangential to one topic brought up perennially in group meetings—the responsibility of management for public relations—Dow decided to check up on how it was doing. A consulting firm was commandeered to run a community attitude survey to determine how well the Texas Division stacked up in the eyes of its neighbors. Results on the whole proved gratifying; steps are currently being taken to shore up weak spots.

Concludes Beutel: "A company grows only as fast as its members grow. We believe that the continuous development of all members of the team is a vital cog in our own growth." What pleasanter way than informally—together?

Trustbusting, '53 Style

The country's antitrust policies are in for a decided change. The Federal Trade Commission and the antitrust division of the Dept. of Justice are taking a long, searching look at the policies pursued by the Democrats over the past 20 years.

A new group—The Attorney General's National Committee to Study the Antitrust Laws—will review the language of the laws and enforcement methods. Attorney General Herbert Brownell, once the committee has reported, may ask either for changes in the existing laws or for congressional approval of the administration's plans for enforcing them.

On the other hand, FTC Chairman Edward Howrey has already spelled out his plans. And it seems to bring the philosophy of the commission back to what Woodrow Wilson, in recommending passage of the FTC Act, envisioned.

Wilson hoped for more than "the menace of legal process . . . [It should give businessmen] advice . . . guidance and information." Howrey's phrase is "compliance, not punishment."

Rather than taking the letter of the law as a guide for enforcing the antitrust precepts falling in its bailiwick, Howrey feels that FTC should also take into consideration "the business facts of life."

Of the two programs, FTC's is closer to completion. The Justice Dept.'s committee won't be created until next month, will take more months to make recommendations. And even then, Brownell and his antitrust chief, Stanley N. Barnes, will need time to sift these recommendations.

Howrey, though, has his plans crystallized. Some will go into effect now, others may have to wait until fall when he gets a solid Republican majority on the commission.

In recent years, FTC has made businessmen painfully aware of the special legal implications of such terms as quantity discount, freight absorption, zone pricing, conscious parallelism of action, good-faith meeting of competition and exclusive dealing.

Howrey's idea is to use "the rule of reason" in getting compliance with the laws he enforces. He won't, as was done in the past, resort primarily to legal proceedings in court or before the commission.

He plans to (1) create a bureau of consultation to "dispose of the majority of potential cases" through voluntary compliance; (2) set up an economic advisory board to advise FTC commissioners directly when they are deciding cases; (3) "revitalize" the entire bureau of industrial economics, which is the main economic investigating bureau of the commission; and (4) set up an advisory committee of industry and government experts to try to clear up the "mystery and ignorance surrounding distribution costs" under the Robinson-Patman Act.

The bureau of consultation, composed of a conference and a small business division, will give informal advice on many questions. Businessmen may talk over differences of opinion with commission staff members, and thus, through voluntary compliance, avoid the time and expense of trial.

HOWREY: New plans for old posers.

Howrey's emphasis on substituting economic research for "preconceived ideologies and theories" stems from his own experience as a lawyer representing clients in antitrust trouble with the FTC.

Divisive Staff? One of the big problems Howrey faces is the personnel of the agency. Only a few of the FTC's 300 lawyers and economists are not Democratic appointees; many of the staff benefit from several years' civil service standing. Recent Eisenhower regulations on civil service, however, have removed from such protection the key, policy-making jobs that Republican Howrey would want to fill with men of his own choosing.

While it may take Howrey some time to put all of these ideas into action, he has already got the commission to reverse its previous stand in the Indiana Standard Oil case. For the past 13 years this case, which concerns the meaning and legal effect of meeting in good faith a competing seller's lower price, has been in the courts.

But how Howrey's ideas will affect other cases now pending in the courts is still to be seen. Among them:

- Suit against the seven lead pigment companies who used a zone pricing system.
- The big four tire makers' fight over FTC's fixing maximum shipments in which sellers can give highest quantity discount. (If this case is reheard, it may prove an ethical problem for Howrey. He represented Firestone before he joined the commission.)
- The antimerger suit brought against Pillsbury Mills in which FTC lawyers charged that Pillsbury Mills violated the law in buying up two competing firms.

Certainly, any action which the FTC takes on these cases will prove landmarks in the new FTC philosophy. And even more certainly, if Howrey can get the FTC again looking for the intent—not the letter—of the law, it will be a relief to many businessmen.

Four Dubbed Safe

Food additives were in the news this week as Commissioner Charles Crawford, Food and Drug Administration, answering specific queries, gave his agency's approval to several antioxidants.

The questions came from the National Confectioners Assn., whose members are interested in the materials for use in lengthening shelf-life of candies by preventing fats from becoming rancid.

The antioxidants approved by FDA:

- Butylated hydroxyanisole (BHA). Makers include Tennessee Eastman and Universal Oil Products.
- Butylated hydroxyanisole, propyl gallate, citric acid mixtures. Makers include American Lecithin (Stabolec), Tennessee Eastman (Tenox II) and Universal Oil Products (Sustane.)
- Propyl gallate, citric acid, natural antioxidants mixtures. Maker is Griffith Laboratories, which uses the tradename G-4.

But while FDA told confectioners that they could use a fourth additive, nordihydroguaiaretic acid, the agency indicated that it desires further tests of the material. NDGA has been in use—with at least the tacit approval from FDA and from the Bureau of Animal Industry (for use in lard)—since 1944.

The material is sold by William J. Stange Co. (Chicago), exclusive licen-

see of the University of Minnesota, which did the original research work.

Says FDA: "Review of available data leads to the conclusion that it would be preferable to have some additional toxicity work performed."

Says manufacturer Stange: "Perhaps FDA's wording is unfortunate in that it gives an impression that NDGA has not been adequately tested." The agency, reports a Stange executive, asked the university about five years ago to extend feeding tests to dogs, in addition to rats and guinea pigs. The university pathologist in charge, however, seemed to feel that testing was already more than adequate and that no more tests were necessary. FDA's present statement, he averred, is "their way of insisting on extended feed tests." Perhaps, he said, as the manufacturer we should have insisted on the tests to prevent such statements as that issued by FDA. "I guess, though, we were kind of asleep." The tests, of course, will now be carried out.

Nub of the Question: The antioxidant NDGA* is extracted from a plant that grows in the western U.S. The shrub is known as both greasewood and creosote bush.

NDGA is a good deal more expensive than such additives as butylated hydroxyanisole, but its greater efficiency has outweighed this disadvantage.

The use of antioxidants in candy was subject of a recent study by USDA's Bureau of Agricultural and Industrial Chemistry and the confectioners' group. The findings definitely showed the superiority of NDGA for use in candies in which butter was an ingredient.

One Break for 'Big 3'

They're still facing an antitrust trial in U. S. District Court in Newark, N.J. (*CW, Dec. 20, '52*), but the nation's three largest manufacturers of soaps and detergents appear to have emerged unscathed from the shadow of somewhat similar accusations from another source.

While Dept. of Justice attorneys continue to push the Newark "monopoly" case through its preliminary stages, the Federal Trade Commission has received from one of its examiners a recommendation for dismissal of complaints charging the "Big Three" with violations of the Clayton Act.

Hearing examiner Earl J. Kolb's recommendation, which will become final in 30 days unless the commission takes further action on its own, states that "the evidence did not sustain the allegations." The companies—Procter & Gamble, Colgate-Palmolive-Peet, and Lever Bros.—were accused of discriminatory pricing in the FTC complaint filed in 1948.

Principal charges in that now-discredited complaint:

- Granting allowances to buyers to cover drops in prices of stock in warehouses, to induce the trade to keep inventories high.
- Using a "count and recount" promotional plan to stimulate the sale of slow-moving products.
- Giving some buyers relatively more credit than others for advertising of manufacturers' products.

LEGAL . . . . . .

Sues for $1.5 Million: Composition of 1,764,000 tablets for high blood pressure is disputed in a suit pending in Troy, N.Y. Rand Pharmaceutical, of Rensselaer, N.Y., is asking $1,490,000 damages, alleging that the tablets in question—received from Norwich Pharmacal of Norwich, N.Y., for distribution in the U.S. and Latin America—contained veratrum album instead of veratrum viride. As a result, according to Rand's petition, the tablets made numerous persons ill. M. E. Eaton, president of Norwich, says his company denies the allegation, is preparing its defense against the action.

•

Drug Store Policing: On both sides of the border this week, authorities are taking heightened interest in drug store merchandise and merchandising.

- Canadian drug stores are allowed to keep on selling penicillin-filled candy tablets for minor throat ailments, but are not permitted to advertise or display such lozenges. This regulation still is not enough for the Canadian Medical Assn., which—meeting at Winnipeg for its 86th annual convention—called for a federal ban on sale of penicillin in any form. Members said they had found that the lozenges caused an outbreak of sores in the mouth.
- Latest firms to be called on the carpet by the Federal Trade Commission include the B-Vimm Co., Selma, Ala.; Charles Antell Co., Baltimore; T.A.A., Inc., New York; and Thyoquent Laboratories, Binghamton, N. Y. FTC has ordered B-Vimm to stop claiming that its product contains an adequate vitamin, liver or mineral dietary supplement; has accused Antell and T.A.A. of exaggerating the prowess of their shampoo and hexachlorophene soap, respectively; and has entered into a stipulation with Thyoquent on toning down the claims for its medicinal preparation.
- For lawyers and others concerned with this kind of product policing, Commerce Clearing House has published "Federal Food, Drug & Cosmetic Act Judicial and Administrative Record—1951-1952."

COMPANIES . . . .

More new companies have been granted charters of incorporation:

- Scott Chemical Co., Inc., Charlotte, N.C., has been chartered with authorized capital stock of $50,000 to manufacture and distribute chemicals.
- Petro-Chemical Corp. has been granted a charter of incorporation listing capital stock of $10,000 to manufacture petroleum products.
- J. B. Henriques Sales Corp., listing capital stock of 200 shares, no par value.
- Federal Chemicals Corp., listing capital stock of 300 shares, no par value.
- Meeker Chemical Corp., listing capital stock of 200 shares, no par value.
- Gale Chemical Corp., listing capital stock of 200 shares, no par value.

•

The Shell Oil Co. has selected Anacortes, Wash., as the site of a proposed $75-million refinery, provided that a new coast geodetic survey shows that the harbor is deep enough for tankers and that the sub-soil surface is sufficiently firm to carry the weight of a refining plant. Shell earlier had issued plans to build in the Puget Sound area, but had not then selected a location.

The new refinery will be within 50 miles of General Petroleum Corp.'s 35,000-bbl. refinery now under construction at Ferndale. Both plants will be supplied by a branch line from the $85-million pipeline from Edmonton, Alta., to Vancouver, B.C.

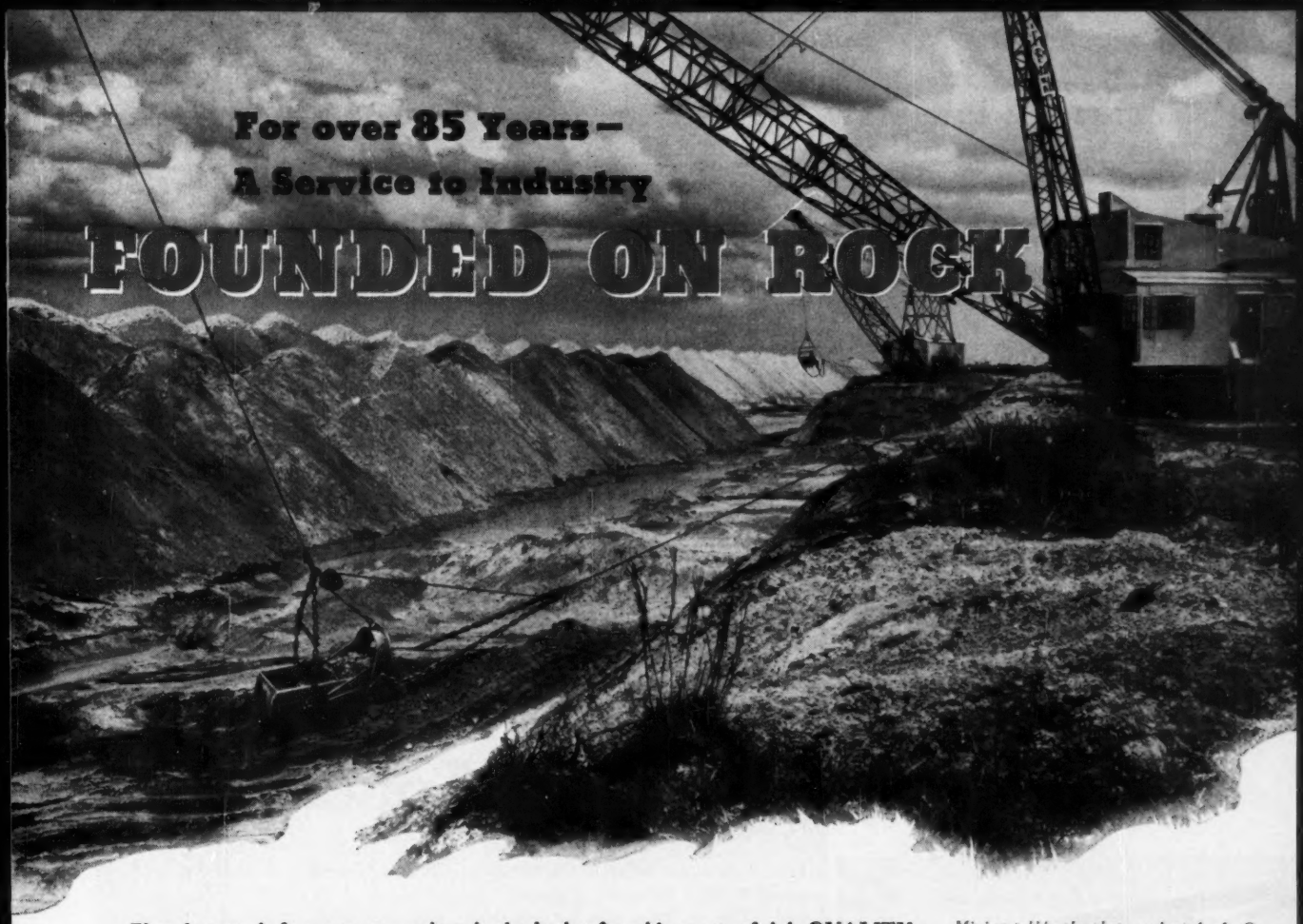
Predicted capacity for Shell at Anacortes: 50,000 bbl./day—about one third of the state's total petroleum products consumption.

•

Linde Air Products, a division of Union Carbide and Carbon Corp., has taken an option on a 1,400-acre site near Parkersburg, S.C. Officials of the firm, however, will not comment on future plans, except to discount local reports that large construction plans are afoot.

Option on another tract of land nearby was recently taken by Stauffer Chemical Co., New York City.

* 4,4'-(2,3-dimethyltetramethylene) dicatechol.



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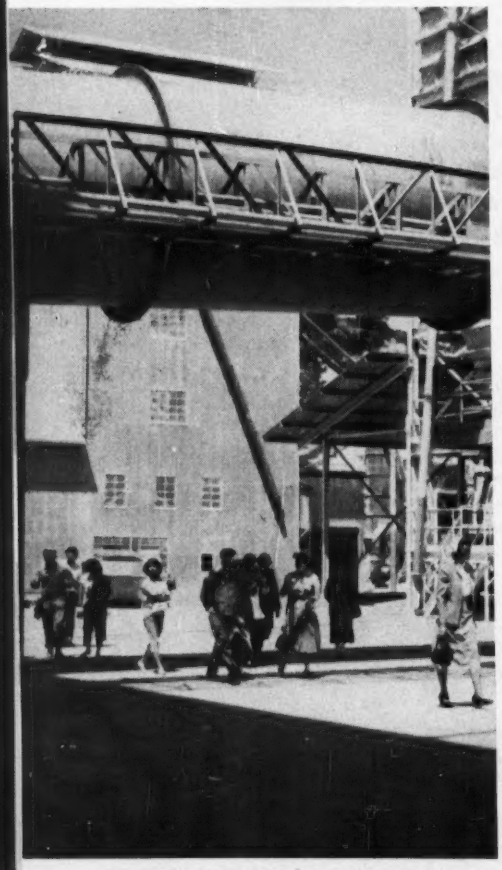
COMFORT AT CARBIDE: A railroad spur, seats on a gondola car save visitors' feet.

The Difference: Little Touches . . .



LEVITY AT LOMPOC: Guests find fun . . .

There's as much difference between a grade-A plant tour and a run-of-the-mill affair as there can be between two vintages of wine. The same hard work and care go into each, but there's a world of contrast in the taste. All you can do is follow the basic do's and don'ts, add a stamp of individuality—and then hope.

Candidly an attempt to woo the public, today's plant tour puts major emphasis on comfort and well-sychronized timing. Basic philosophy, say most tour-planners, is that the easier you can make it for visitors to get about and understand, the more receptive they're apt to be. It doesn't matter what special lure you use to coax people in; an open house celebrating an anniversary, dedication of a new plant, debut of a fresh product, or a simple invitation to stockholders to look around, will do. What matters most is how they're invited.

John's-Manville's recent open house at Lompoc, Calif., added a personal touch, with marked success. All letters of invitation were individually typed and so worded as to appear to be an exclusive invitation from O. B. Westmont, the plant manager. The result provoked widespread favorable comment, was much better than a mimeographed or impersonally worded release.

Union Carbide's Electro Metallurgical Co. went a step farther, followed its recent invitation on the press tour at Marietta, O., with a follow-up confirmation letter from the plant manager, and topped the matter off with a personal note from Pres. W. E. Remmers thanking visitors for their courtesy in attending.

Takes a Heap of Time: To manage all the various details of any extended plant tour requires time and thought. Visitors expect split-second timing, no lag in the schedule. At J-M's open house, recollects one pleased guest, "our baggage was checked onto a chartered plane and seen again for the first time at the hotel. All rooms were assigned and registered prior to arrival; there was a minimum of confusion and waiting in the lobby." Says another: "The hotel people were especially polite, acted like any friend of J-M's was a friend of the inn. There was none of that mass handling seen all too often when large bodies of bodies descend on a hotel for an open house."

The attitude of reception committees makes a strong impression upon visitors. At Marietta, the arrivers were greeted by enough management personnel so that each car leaving the station was manned by at least one host. And since most of the visitors were from the New York area on eastern daylight time, for the benefit of the tour (and to by-pass the necessity of changing watches) plant

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. . . enjoy a barbecue, entertainment, working demonstrations.

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time was shifted up one hour.

The size of the guided group is an item that bears consideration. At Lompoc, "the groups were small enough for each member to hear the guide, who really knew his stuff . . . didn't attempt to puff up the company." At Marietta, there were never more than five or six in a group, lists were distributed naming guide and all members of each party.

Mealtime poses a problem on most tours. Confirmed tourers assure you, however, that when the meal is catered, not strained to bulge plant facilities, the result is gratifying. Lompoc's Chamber of Commerce sponsored the open-house dinner, but breakfast and lunch the following day were served at the inn, with each guest free to eat when and what he chose. An interesting note: "These meals," report those who attended, "provide the best opportunity for out-of-towners to get acquainted informally with local personnel."

The presence of top-rung management mingling among the crowd is good public relations, sends stockholders as well as individually invited guests away feeling gratified. Ciba's dedication at Toms River featured the presence of New Jersey's Governor Driscoll as well as top men from Ciba Ltd., Basle.

Tell 'em, Then Tell 'em Again: Complete brochure packages, often with eleborate write-ups on company activities, are normally distributed on plant tours. Lompoc wrapped the matter up, gave as complete a pictorial story as possible before the actual start of the tour, then presented guests with a folder of what they'd seen to refresh their memories.

Guides on the press tour will be remembered for their friendliness; ("Didn't miss a face or a publication") and their astuteness ("It was the first plant tour I've been on where I actually learned a good deal about the plant").

What to Avoid: Too great a rush ("I never got a chance to get a second look") and too much delay ("It was hurry up to wait") are the twin gripes of most plant visitors. Others resent the common failing to identify key personnel (other than guides), feel "It would have helped a great deal if we'd been able to spot people and tie in a name with a face."

Compensating for any oversights: little everyday courtesies (being greeted by name, having adequate transportation provided), willingness to answer questions, a touch of the personal.

CEREMONY AT CIBA: Under two flags . . . smooth cooperation.

FOREIGN . . . . .

Petrochemicals/Canada: Pacific Chemicals Ltd. reports that renovation and expansion of its processing plant at Calgary, Alberta, has been completed. Preparations are being made to enter into petrochemicals.

•

Uranium, Thorium/India: A new uranium and thorium plant on the outskirts of Bombay will soon make India self-sufficient in thorium nitrate. To be known as the Trombay Factory, it will also process the thorium-uranium cake residue from the recently completed rare-earths plant at Alwaye, South India, thus making possible the extraction of pure uranium and thorium. Output capacity of up to 228 tons of uranium nitrate annually was estimated in Parliament recently by the Deputy Minister for Natural Resources and Scientific Research, was subsequently disputed by the Tata Fundamental Research Institute, leading Indian authority on atomic energy research. Nonetheless, limited amounts of thorium nitrate will be available for export for strictly commercial uses says the Indian government.

•

Sulfuric Acid/Australia: The Broken Hill Assoc. Smelters Pty., Ltd., has

Fired at 1700°F., glassed steel gives you

the corrosion resistance of glass *plus* the working strength of steel

In specially designed furnaces, at temperatures as high as 1700°F., the almost universal corrosion resistance of Pfaudler glass is combined with the working strength of steel. During this high heat period, *an interlocking chemical action takes place between glass and steel.* As the temperature is lowered, forces are set up within the glass itself which make it hard and tough. It has now become glass completely reinforced by steel.

Even at elevated temperatures and pressures, Pfaudler glassed steel is resistant to *all* acids except hydrofluoric. With a new Pfaudler glass, it is possible to handle not only acids but also *alkaline* solutions up to a pH of 12 and 212°F.

Pfaudler glassed steel reactors are built in capacities of 5 to 3500 gallons and for internal pressures as high as 200 p.s.i. These units have agitation, are usually jacketed, and are supplemented by a complete line of glassed steel accessories. Other types of glassed steel equipment include heat exchangers and condensers, distillation assemblies, and columns.

Write for Bulletin 894-F-4

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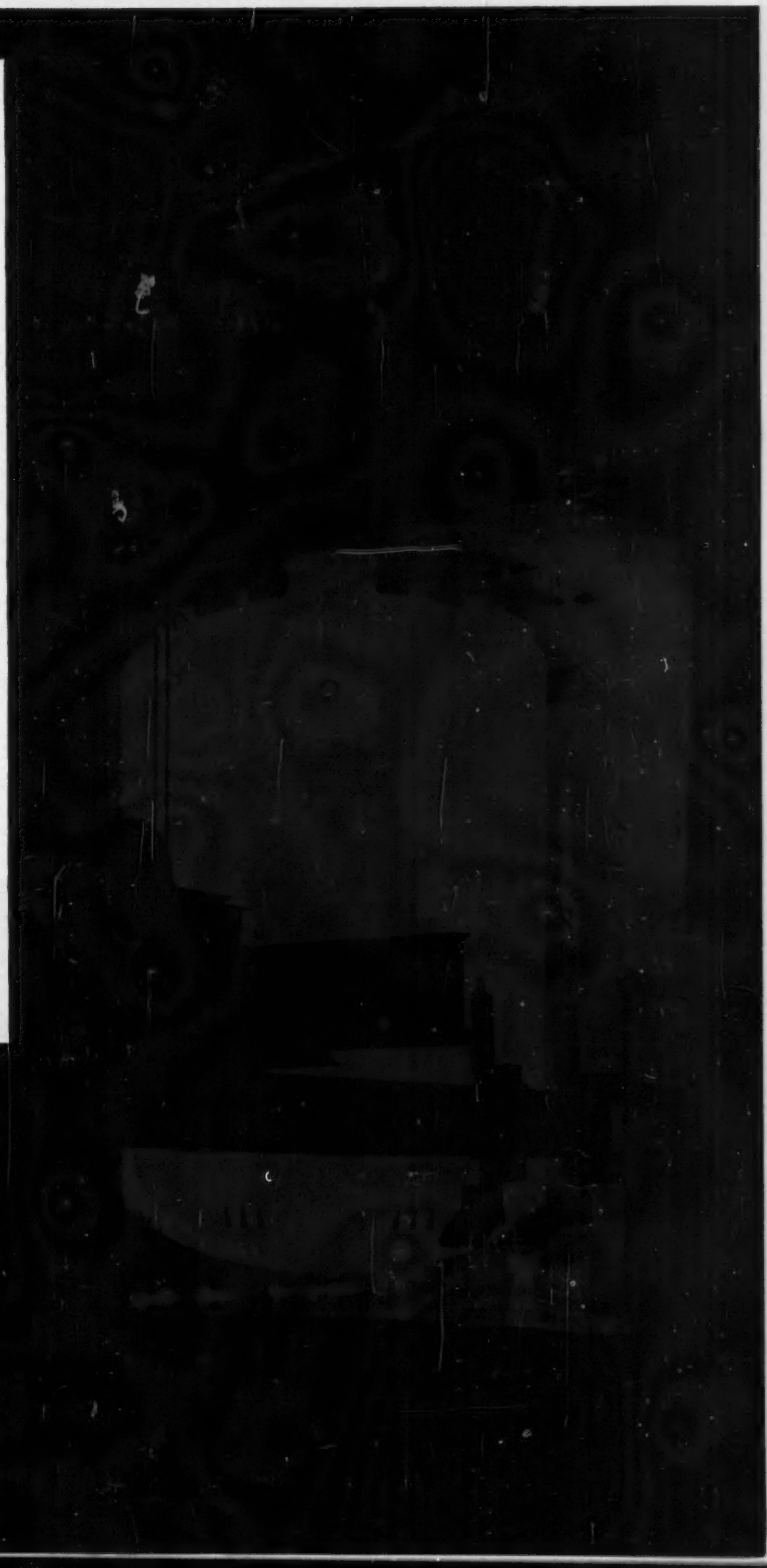


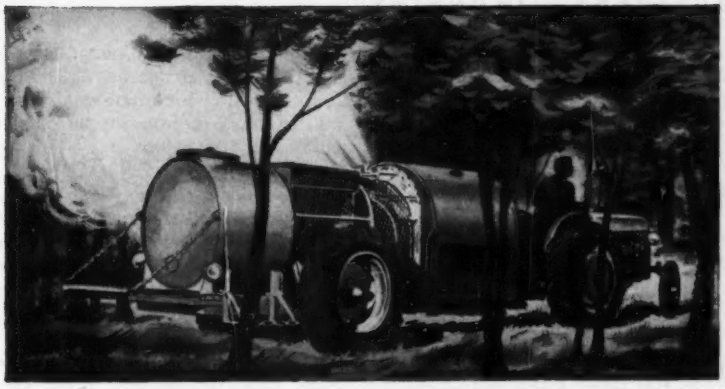
New products and profits with Armour Chemicals

Of course this sun-tan lotion is fresh—it was made with Armour's ester-free oleic acid!

Fresh and fragrant, the sun-tan lotion in this bottle is just what this lovely girl expects . . . and demands! But it takes a good deal of work to make sure that no matter how long a product like this stays in stock or in a warehouse it's still fresh when it gets to the consumer. When you formulate cosmetics with Armour oleic acids, we do the work of guaranteeing that vital freshness.

You see, Armour produces oleics by a new low temperature solvent crystallization process. We use a solvent that does not react with the raw material. This solvent is the secret by which we produce ester-free oleics that are stable enough to withstand high-temperature processing without breaking down. It means that cosmetics, soaps and shampoos made with Armour oleics may be stored for long periods of time without losing their freshness or fragrance.

Our six oleics, covering all grades you need, offer you higher purity, greater stability —even under high-temperature processing— and longer shelf-life for your products, all at competitive prices. Send the coupon now on your letterhead for further information and current price quotations.

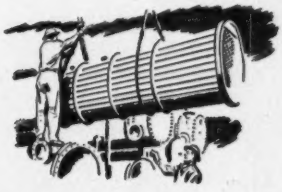


Spray emulsions must be stable – Armour chemicals make sure they are!

Stability in spray formulations is vital, because it costs money to stop and stir an unstable emulsion. Armour chemicals have proved, time and again, that they form stable, long-lasting emulsions with minimum agitation. That's one reason these Armour chemicals are so popular with agricultural chemists.

Stability is not the only valuable characteristic Armour emulsifiers add to spray formulations. Ethomeens S/12 and S/15 and Ethofat 142/20—three of our most versatile emulsifiers—are not affected by water hardness. Spray-rig operators can use locally supplied water without fear of forming curds in the spray, clogging nozzles or wasting time in unnecessary cleaning.

These Armour emulsifiers are highly efficient. This is proved by the fact that Ethofat 142/20 emulsifies chlordane directly into water without the use of a solvent. Chlordane, DDT, 2,4-D, toxaphene—these are only a few of the toxicants that can be emulsified easily and economically with Armour chemicals. Send the coupon for a technical bulletin containing further information on our complete line of efficient and versatile emulsifiers.



Field tests prove Armeen C effective as a corrosion inhibitor

In a west coast casinghead gasoline condenser, corrosion was heavy enough to cause extensive damage to equipment as well as frequent and costly shutdowns for cleaning. The tubes actually accumulated so much residue that it could be removed with a shovel. After reports of the effectiveness of Armeen C as a corrosion inhibitor in other applications, it was decided to test this Armour chemical. When the tubes were removed for final inspection at the end of the test—in the absence of the engineer—there wasn't *any* corrosion residue. In fact, they were so clean that when the engineer saw them he thought the foreman had ruined the test by steam-cleaning them. He was amazed to learn that Armeen C—not cleaning— was the reason for the almost complete absence of corrosion or corrosion products.

Needless to say, this plant is now using Armeen C extensively for this and other processes. An interesting sidelight is the fact that since the introduction of Armeen C the throughput of the plant has increased 20%—a big factor in reducing production costs.

Gas lines, crude pipe lines, sour crude producing wells, product lines, flood systems—in all of these Armeen C and other Armour corrosion inhibitors have proved versatile, economical, and highly efficient. All our corrosion inhibitors are covered in a new technical bulletin, "Combat Corrosion." Send the coupon with your letterhead for a free copy.

Neo-Fat® 280—a new low-cost vinyl chloride stabilizer

Shower curtains made with vinyl chloride polymer type plastics are very popular items *if* they don't yellow on aging. That *if* is important. Women may buy once, but they won't buy a given brand again if the curtain looks old too soon or begins to yellow and crack.

Shower curtains are only one of many products made with these versatile plastics. However, stability to heat and light is important in most applications. In the past, stearic acid or low purity mixed coco fatty acids—mixtures of stearic, oleic and linoleic acids—have been used as stabilizers to prevent yellowing and premature aging. Soaps of these acids are not completely compatible with the plastics, resulting in "blooming" or cloudy films. And unsaturated acids, unavoidably present, contribute to yellowing—in pigmented films, they lead to off-shade colors.

Neo-Fat 280—a new, low-cost fractionally distilled fatty acid—is outstanding for this application. Its soaps are compatible with vinyl plastics and so do not contribute to cloudy films. Stabilizers based on Neo-Fat 280 are extremely resistant to water leaching in vinyl films. Finally, the high acid value, low moisture and low unsaponifiable content of this fatty acid insure a maximum of metal per pound of stabilizer.

Free samples of Neo-Fat 280 are available; simply send the coupon on your letterhead. Prices will be quoted on request.

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- ☐ "Combat Corrosion" Tech. Bull.
- ☐ Neo-Fat 280 samples and prices

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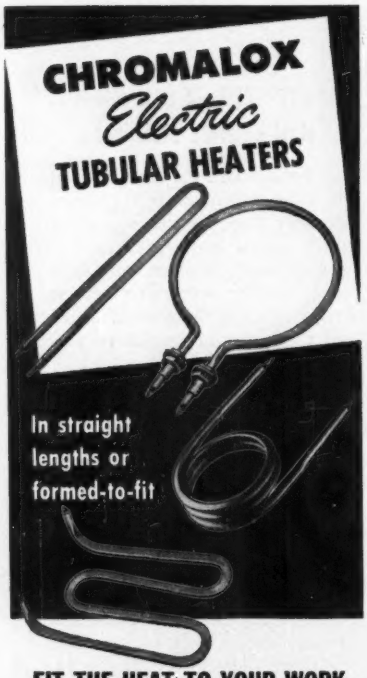

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CHROMALOX

THE BEST IN ELECTRIC HEAT

completed a contact sulfuric acid plant, which should come into partial production late this year. At first, acid will be produced solely from sulfur; but equipment to treat sulfur gases from the roasting of lead concentrates is being built.

•

Polyvinyl Chloride/Yugoslavia: Reports the Yugoslavian Press: "the polyvinyl chloride plant of the Yugovinyl Co., Kastel Sucurac, is in full production . . . is one of the most modern plants of its type." Powder, granulated and paste forms are being exported to W. Germany, France, Switzerland, Austria, the Near and Far East, and several South American countries.

•

Terylene/Great Britain: Imperial Chemical Industries' Terylene plant, now under construction in Yorkshire, plans to double its output of Terylene, will ultimately produce 22-million lbs. of fiber annually instead of the 11-million-lb. capacity scheduled for late 1954.

In 1950 the company predicted a $28-million Terylene investment at Wilton; with the additional facilities the ante jumps up another $31 million. Right now ICI is turning out about 1 million lbs./year from a pilot plant in Hillhouse, Lancashire.

•

Plastics/China: China's "first" plastics factory started last month, is located in Chungking, according to Soviet broadcasts. It is producing raw materials (including furfural) as well as finished plastics.

•

Resin/Philippines: The Borden Co. (New York) has decided to put up a $1-million plant in the Philippines to manufacture phenolic and urea resins for the plywood, paint, textile and moulding industries.

•

Plastics/Hungary: PVC is now being used in Hungary for a wide variety of uses, states the Hungarian press. At a factory in Nagytétény, water pipe is being extruded. Other products: sheeting, toothpaste tubes, shoe soles.

Molding powder, however, is still being imported from Eastern Germany. Present plans call for manufacturing it in Hungary soon.

Lure for the Curious

"THE FUTURE of the chemical industry rests on its ability to attract the best minds from today's youngsters—to guide the curious minds to become the great scientists of tomorrow. If today's youngsters know more about jets than about chemistry, perhaps its our fault." Those are the sentiments—and convictions—of Monsanto's Charles Thomas.

To help redress that "fault." Monsanto released this week a 50-minute noncommercial documentary film, "Decision for Chemistry" (*see cut*), which deftly portrays the glamor of chemistry and the chemical business. It's cost: over $100,000. Fifty prints will be shown in plant cities, and by September another 150 prints of a 29-minute version will be made available to schools, civic groups, etc. The goal: to reach millions of people and, especially, those all-important curious youngsters.

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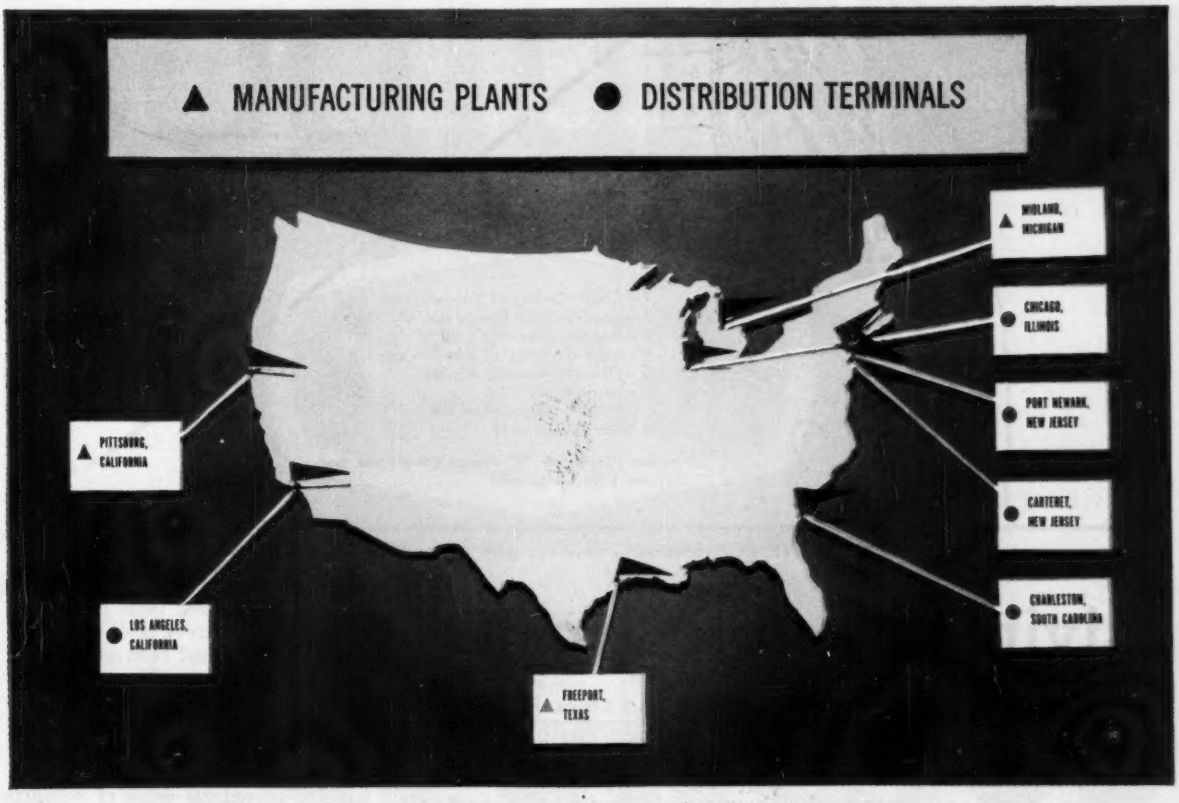
Strategically located manufacturing plants and shipping terminals provide fast, efficient, nation-wide service



As a user of caustic soda, you are particularly concerned with prompt, dependable delivery, for it means that your production schedules can be maintained. In order to serve you in the best possible manner, Dow has created a diversified caustic soda distribution network—*a network that can serve all industries throughout the country from a minimum of two shipping points.*

Your company can greatly benefit by Dow's distribution system. With three manufacturing plants, which also serve as shipping centers, and five additional distribution terminals, Dow can serve your requirements fast and efficiently wherever you are.

Dow's rigid quality control assures you of uniform, high quality caustic soda at all times. Whether you use caustic soda solution, solid, flake or ground flake, you can be certain that the modern containers are designed to maintain the high quality of the caustic soda and are safe and convenient to use.

The next time you order caustic soda, be sure to call on Dow and take advantage of the many distribution and production benefits.

Write Dow today for the Caustic Soda Handbook. You will find it a valuable addition to your files. THE DOW CHEMICAL COMPANY, Midland, Michigan.

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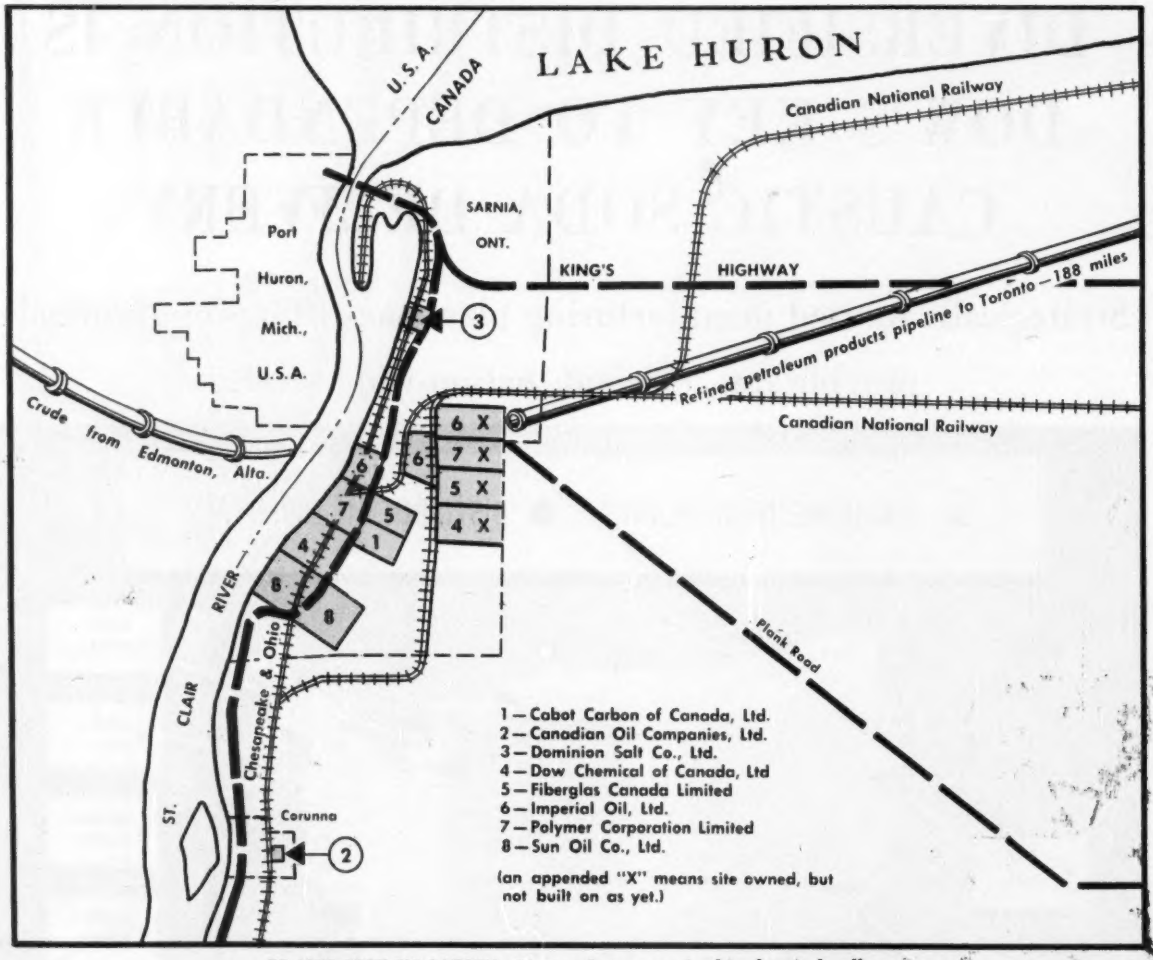
DOW



PLANT SITE IN SARNIA: No weeds to grow in this chemical valley.

Living Up to a Name

Chemical and petroleum manufacturers lend weight to Sarnia's claim as "Canada's chemical valley" with $80 million in new plant investment over the past year.

Crude oil, both tanker-borne and pipelined in, and salt are the basis on which its refining, synthetic rubber and chemical operations are built and expanding.

Some $80 million was invested in new plants in Sarnia, Ontario, last year. You don't have to look beyond the city's own subtitle, "The Chemical Valley of Canada," to find the driving force behind the expansion.

And you don't have to search much farther to learn why the chemical and oil companies involved—Canadian Oil Companies, Ltd., Dow Chemical of Canada, Ltd., Imperial Oil Ltd., Polymer Corp., Ltd., and Sun Oil Co., Ltd.—added that much to their Sarnia investment. At the bottom of it all: petroleum and salt, the area's principal raw materials.

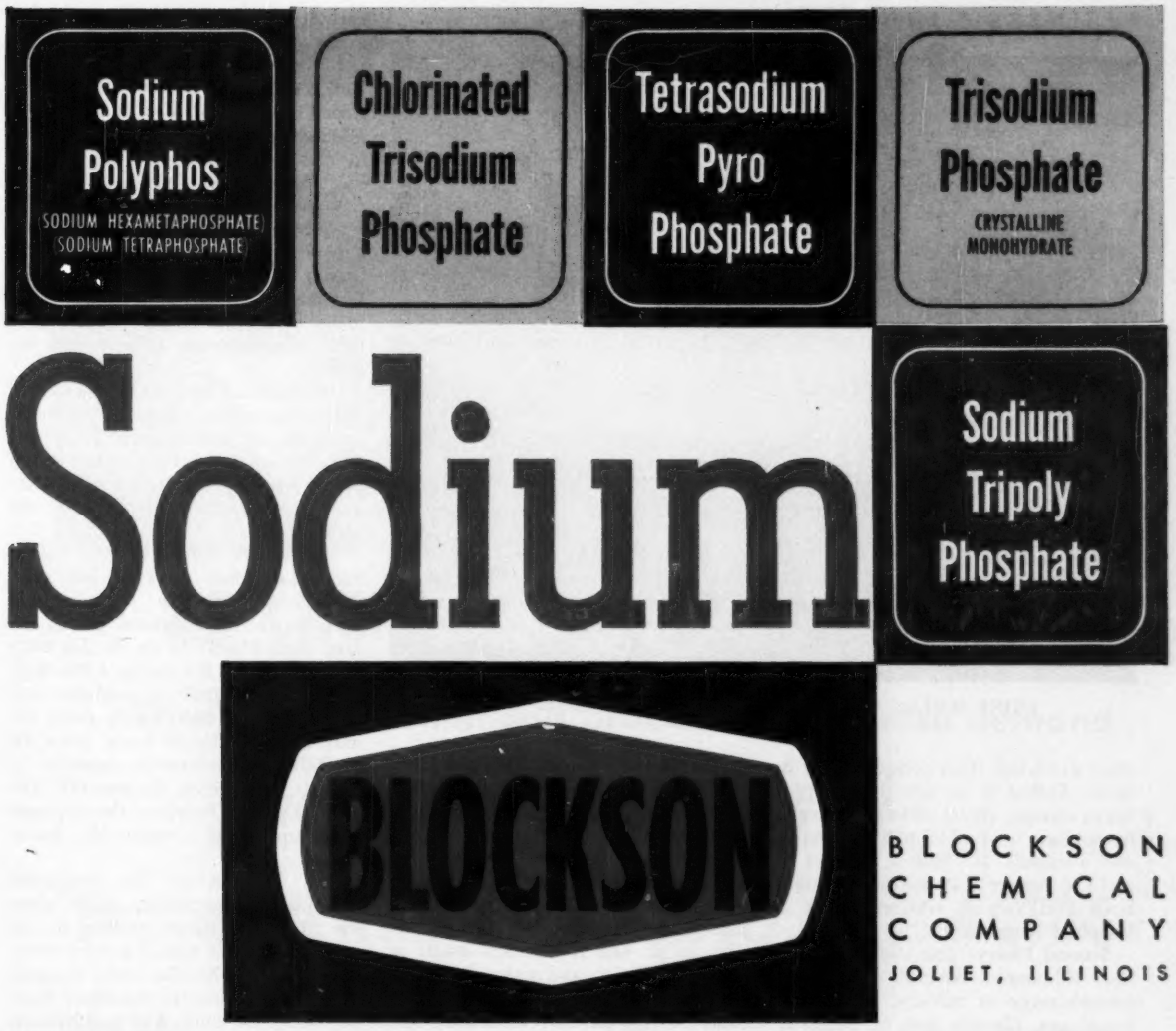
The new plants cap a record six years of hectic expansion that has Sarnia bursting at the seams industrially and civically—and a little blasé about plant dedications. But citizens who attend such functions still have a busy season ahead. Although some of the new units are already in operation, the sound of the riveter's hammer is loud this week as further units are rushed to completion.

Young Old-Timers: How fast Sarnia has grown in recent years is pointed up by a recent survey of 41 manufacturing firms: 25 had been in business less than 10 years, thus qualify as legitimate Sarnia "old-timers."

The real corporate oldsters are few: Imperial Oil, which has had a refinery there since 1897; Canadian Oil, which last fall ceased 50 years of refining operations at nearby Petrolia and moved to its new refinery at Corunna, four miles south of Sarnia; and Dominion Salt Ltd., which since 1904 has been working the salt beds.

But Sarnia's early tranquil life—and expansion—changed with the first upsurge of chemical activity in 1942. That was when construction began on the $48-million wartime synthetic rubber project of Polymer Corp., an agency of the Canadian government, and when Dow Chemical of Canada came into being.

Dow's the Keystone: Binding the arch of Sarnia industry is the keystone, Dow Chemical of Canada. Its operations are so diverse, its ramifica-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BRINE WELLS AT DOW: Salt water and petroleum do mix.

tions so varied, it's a complex story in itself. Suffice it to say that it produces styrene, glycol, chlorine, caustic, hyrochloric acid, chlorinated solvents, and ammonia. It's both a supplier to and a customer of its industrial neighbors; and Sarnia's wartime surge is largely a Dow story.

Second Flurry: The 1947 oil strike near Edmonton, Alberta, started the second surge of activity. Until four years ago, Canada had of necessity imported 90% of the oil it used—at high cost. A $90-million, 30-in. pipeline was built to span the 1,126 miles between Edmonton and Superior, Wis. First crude flowed through the pipeline in the spring of 1951.

Imperial Oil started building its fleet of tankers, largest on the Lakes, to bring oil from Superior to Sarnia. A 4.5-million-gal. storage takes care of the winter season when ships can't operate. Now, the final 625-mile leg of the pipeline is being extended from Superior to Sarnia at a cost of $79 million. In 1954, when the pipeline will bring 300,000 gal./day all the way from Edmonton to Sarnia, the tankers will switch from hauling crude to Sarnia to carrying such refined products as gasoline and fuel oil to sales points.

The prospect of this amount of oil encouraged expansion by companies already located in Sarnia and is bringing an influx of many others. Imperial is just completing a $50-million expansion and modernization program and recently approved another $6 million for the near future. Two new units—a 50,000 bbl./day crude distillation unit and a 25,000 bbl./day fluid cat cracker—will boost Imperial's capacity 30% to 71,000 bbl./day.

Canadian Oil Companies, Ltd. moved in and started operating its new $22-million refinery last September. The plant has four main units: a crude distillation and visbreaker unit, a platformer, a cat cracker,* and a catalytic polymerizer. Canadian will make the usual petroleum products, also supply feed stocks for Dow's new ethylene plant. A propane by-product of the polymerizer will be offered for fuel or as a feedstock for chemical synthesis.

Sun Oil Co., Ltd. is completing a $15-million, 15,000 bbl./day refinery, which will go onstream later this year. Sun will sell butylene feedstocks to Polymer Corp. for making synthetic rubber.

Polymer Corp., which has the distinction of being the only fully integrated rubber production facility in the world, has spent $9 million boosting rubber plant capacity 25%. Another $1 million is going into a new research and development laboratory scheduled to open this summer.

Canada's first carbon black plant, built by Cabot Carbon of Canada Ltd., (Godfrey L. Cabot subsidiary), has just started up. The $2-million plant will produce 20 million lbs. of carbon black annually, the company says.

Right next door, Fiberglas Canada Ltd. is expanding its plant, which produced the first glass fiber in Canada in 1948. Nord Chemical Co., which has just been organized, has bought part of Canadian Oil's Petrolia plant and will manufacture paint solvents.

More Than Oil: It might seem that a plentitude of petroleum is the only reason for the Sarnia boom. Though the main one, it shares honors with many other factors that favor this tight concentration of chemical industry.

The vast salt beds (2,500 ft. down) have barely been tapped. Benzene is available by tanker from Hamilton, Ont. (Steel Co. of Canada), Sault Ste. Marie (Algoma Steel Corp.). Clay and limestone are plentiful in the area.

Coal can be barged in from Toledo and other Ohio ports at low cost. Obviously petroleum fuels are in bountiful supply. Natural gas in the area costs $1.065/M cu. ft. (for more than 2,000 cu. ft.) and is 1,000-Btu/cu. ft. gas. Electricity is available from Niagara Falls, and Sarnia users are only drawing 21,000 k.v.a. from the 33,000-k.v.a. substation capacity at present. In addition, the new 600,000-k.v.a. Ontario Province development will supply all foreseeable future needs.

The location of the integrated chemical and petroleum plants along the St. Clair River testifies to the excellence of the inland water system. (The St. Clair handles more shipping in six months than the combined yearly total of the Suez, Kiel and Panama Canals.) Depth at the municipal dock is 22-24 ft.

The C&O and CNR roads now handle 1,300 freight cars daily and are looking to the future. CNR is building a new $1.5-million marshalling yard and the C&O a $1.5-million car ferry between Sarnia and Port Huron.

The water supply is plentiful and cold (rarely over 70 F.). The climate is good—153 frost-free days, 61-in. annual snowfall, 34-in. rainfall.

But the site-shopper would do well to include pollution control in his plans. Sarnia is already on the smoke pollution map as a result of a complaint when a freak wind dumped its smoke on Detroit's doorstep last summer.

Only Way Is Up: Sarnia has no choice but to grow with its industry. It holds the record in Canada for population increase: 85% between 1941 and 1951. In 1940 population was 18,000, today it is 42,000. Naturally this brought crowding, but a council-manager government formed

* First in Canada, third on the American continent to have reactor and catalyst regenerator in one vessel. Catalyst circulates around the cycle at a 1,000 ton/hour rate.

YOUR PROCESSING COSTS GO DOWN

AS CHEMICAL PURITY GOES UP

...That's why cost-minded production men also demand

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'Baker Analyzed' *REAGENT* ACIDS

"What is one of the most effective ways to help lower processing costs?"

When acids are a raw material, you can frequently eliminate several purification steps at the end of the process, when you use the Reagent Grade of Hydrochloric, Sulfuric or Nitric Acid.

Cost-minded production men know that processing costs go down as chemical purity goes up—and to achieve their aims they insist upon 'Baker Analyzed' Reagent Acids.

Their reasons are two-fold: (1) Greater uniformity in the finished product because of Baker's higher, defined purity, and (2) elimination of guesswork, cutting down of production steps, saving time and money, because the actual lot analysis of the chemical is on the label.

Next time—every time—specify 'Baker Analyzed' Hydrochloric, Sulfuric, and Nitric Acids. See how much you gain in time and freedom from trouble by eliminating impurities from the start.

'Baker Analyzed' Reagent Acids are available for scheduled delivery in carboys, truckloads and carloads. Their higher purity quickly reflects itself in lower processing costs of your finished product.

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in 1951 is coping with the problems.

In 1952 numerous stores, offices and warehouses, two new banks, several apartment buildings and 600 new homes were built. For 1953 several apartment blocks and 1,000 new homes are scheduled. A $2½-million hospital extension has been voted, a third high school is under construction and $250,000 is being spent on elementary schools.

Cognizant of the coming boom, Sarnia wanted to expand its then 2,000-acre domain and incorporate 9,000 acres of outlying land within its city limits, but one edge of the acreage fell in a Chippewa Indian reservation. The tribe finally agreed to sell those 195 acres to Dow for $1,000 /acre. Half the amount was put in trust, yet every man, woman and child in the tribe realized $231 cash. As a result there are a lot of new cars on the reservation and Sarnia now boasts a total of 11,000 acres valued at $50 million.

Value of gross manufactures was $26.2 million in 1939. By 1949 it was $145.3 million, ranking Sarnia as fifth largest in Ontario, ninth in Canada. Employment was up 213%, payrolls 356%. Of Sarnia's 9,091 workers in 1949, over half were employed by Imperial, Dow and Polymer. With the influx of new companies, the percentage working in the chemical industry is probably a good deal higher today.

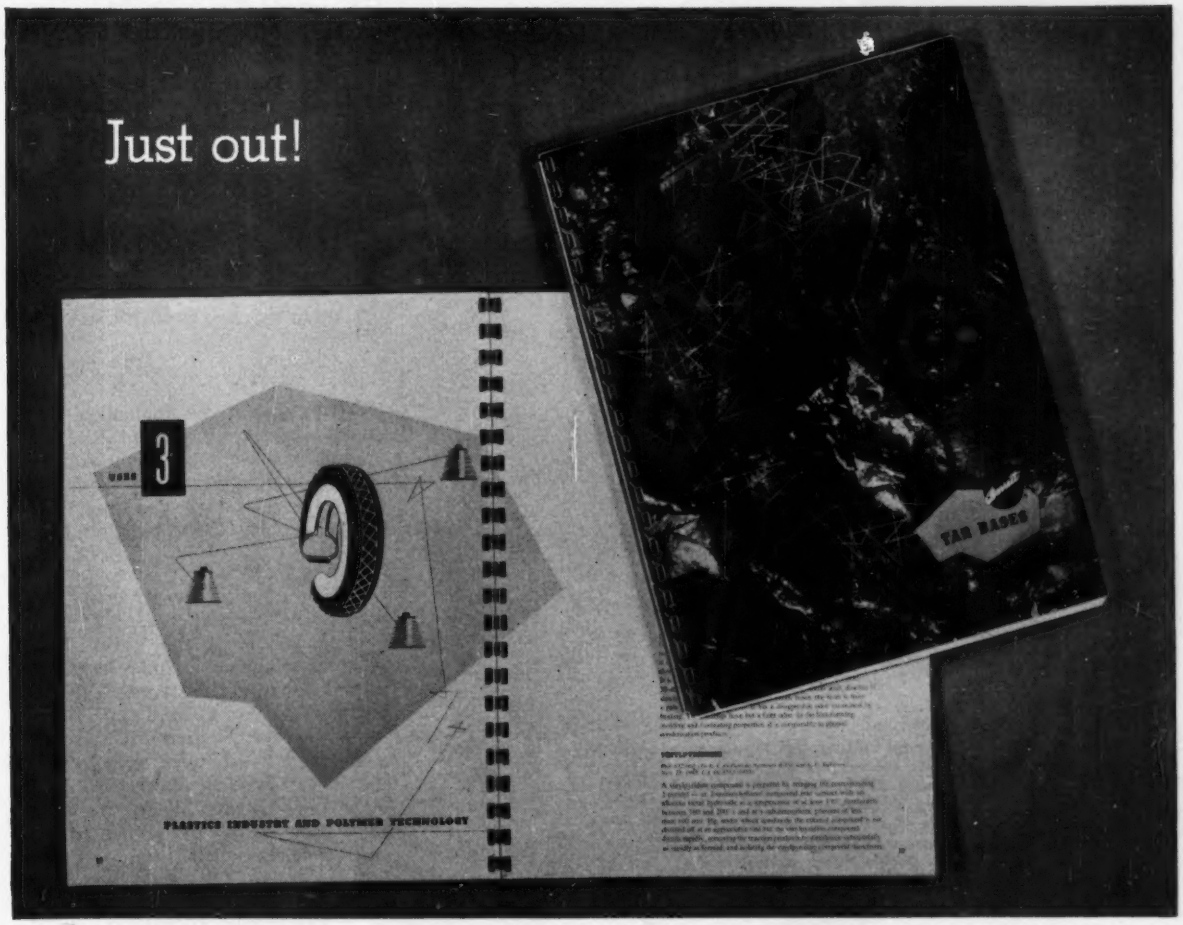
No Room for Weeds: The boom is by no means over. An $11-million, 188-mile pipeline of Imperial just went into service last November, carrying gasoline, and diesel, furnace and stove oils to London, Hamilton and Toronto at the rate of 40,000-50,000 bbl./day. And another products pipeline—a $6-million project owned two-thirds by Sun Oil, one-third by Canadian Oil—will cover the same route. To be completed next October when Sun's new refinery comes in, it will have an initial capacity of 17,500 bbl./day, and an ultimate capacity of 35,000. Like the other, it will provide its owners with a year-round outlet at Hamilton, London and Toronto previously not possible when the Lakes became ice-bound.

Of Canada's rubber consuming market, 90% lies within a 200-mile radius of Sarnia. Exports are a relatively new venture, but in 1952 accounted for 11,000 tons of synthetic rubber, 155 tons of caustic, 539 tons of "other" chemicals.

Although the completed pipeline from Edmonton will deliver 300,000 bbl./day, Sarnia refineries have only 100,000 bbl./day capacity. More re-

free!

send for this valuable brochure today and learn the scientific facts about TAR BASES—
their applications, properties,
performance and potentialities.



This handsome 96-page brochure belongs on the desk of every man whose business uses Tar Bases. More than a catalogue, "Barrett Tar Bases" is an up-to-the-minute reference work on one of the fastest developing fields in industrial chemistry. Subjects include:

USES OF TAR BASES in the pharmaceutical industry... as stabilizers in vapor degreasing . . . in plastics industry and polymer technology . . . in the petroleum, cellulose, textile, dye, and pesticides industries . . . in metal cleaning operations . . . as denaturants . . . other varied uses. Includes bibliographical abstracts to facilitate research.

PROPERTIES OF PURE TAR BASES—physical constants, thermodynamic constants, solubility data, azeotropic mixtures, vapor pressures, viscosity data, spectra.

TYPICAL REACTIONS OF PURE TAR BASES—addition compounds, halogenation, nitration, oxidation, hydrogenation, sulfonation, hydroxylation, amination, alkylation, arylation and condensation.

TEST METHODS—specific gravity, water content, distillation, residue, oil content, color, preparation of color standards, limpid point, quinoline content.

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Allied Chemical

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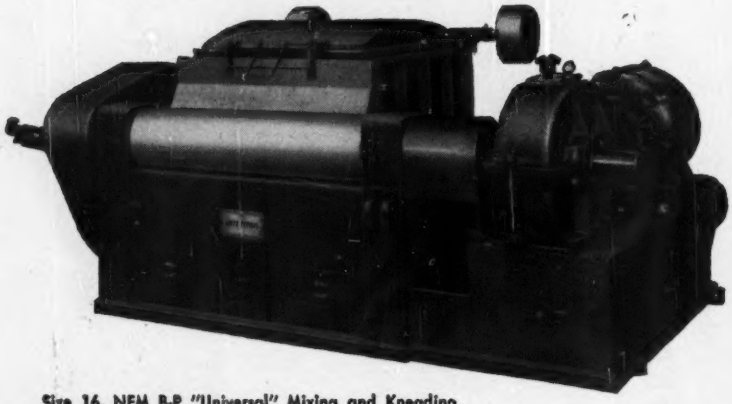
40 RECTOR STREET, NEW YORK 6, N. Y.

In Canada: The Barrett Co., Ltd., 5551 St. Hubert St., Montreal, Que.

BAKER PERKINS mixers will thoroughly mix and knead almost any material for the chemical processing industry

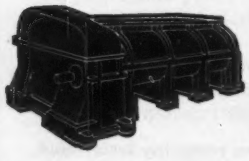
There is a BAKER PERKINS Mixer built to efficiently mix and knead materials ranging in consistency from dry powders and light fluids to stiff plastic masses. Close clearance between the blades and trough keeps every particle of the material in constant motion so that no part of the batch escapes the thorough mixing action of the blades. Intensive kneading is maintained as the material is pulled and squeezed against the blades, saddle and sidewalls. Consult a B-P sales engineer for full facts.



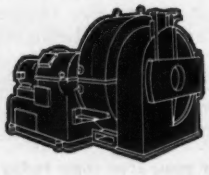
Size 16, NEM B-P "Universal" Mixing and Kneading Machine for heavy plastic masses. Working capacity 150 gallons; total capacity 225 gallons. Fabricated steel trough shell jacketed for 150 psi. steam or water pressure. Cast iron trough ends are not jacketed. Saddle section has thermocouple for temperature control. Cast steel Sigma or Double Naben blades cored for circulating steam or water. Oil tight gear guards; anti-friction bearings. 50 HP motor.

242-A

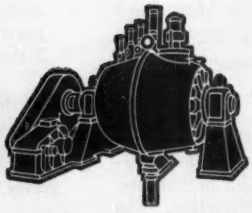
Other BAKER PERKINS products



EQUIPMENT FOR FOUNDRY INDUSTRY



CENTRIFUGALS



EQUIPMENT FOR RAYON PRODUCTION

BAKER PERKINS INC.

CHEMICAL MACHINERY DIVISION • SAGINAW, MICHIGAN

fineries and chemical plants are needed, and currently several U.S. oil companies are considering sites.

Just as carbon tetrachloride, ethylene glycol and carbon black were the production "firsts" for Canada, so many other chemicals not now made there are needed.

The Dominion of Canada imports $9 million of tetraethyl lead from the U.S., would like to see home-soil production. (Dow with its ethyl chloride production should be a natural for this, but won't comment). All metallic sodium now used is imported. And methylene chloride, too, is needed.

Perhaps the best comment on the future of Sarnia as a chemical center is that made by Pres. N. Russell Crawford of Dow Chemical of Canada Ltd. when questioned about 125 acres of land recently purchased: "It is not our intent to grow weeds there."

LABOR . . . . . .

Picketing Limit: An injunction was granted by a county court in Pittsburgh at the request of American Cyanamid, prohibiting mass picketing at the strike-bound Selden plant at Bridgeville, Pa. (*CW Newsletter, May 2*).

•

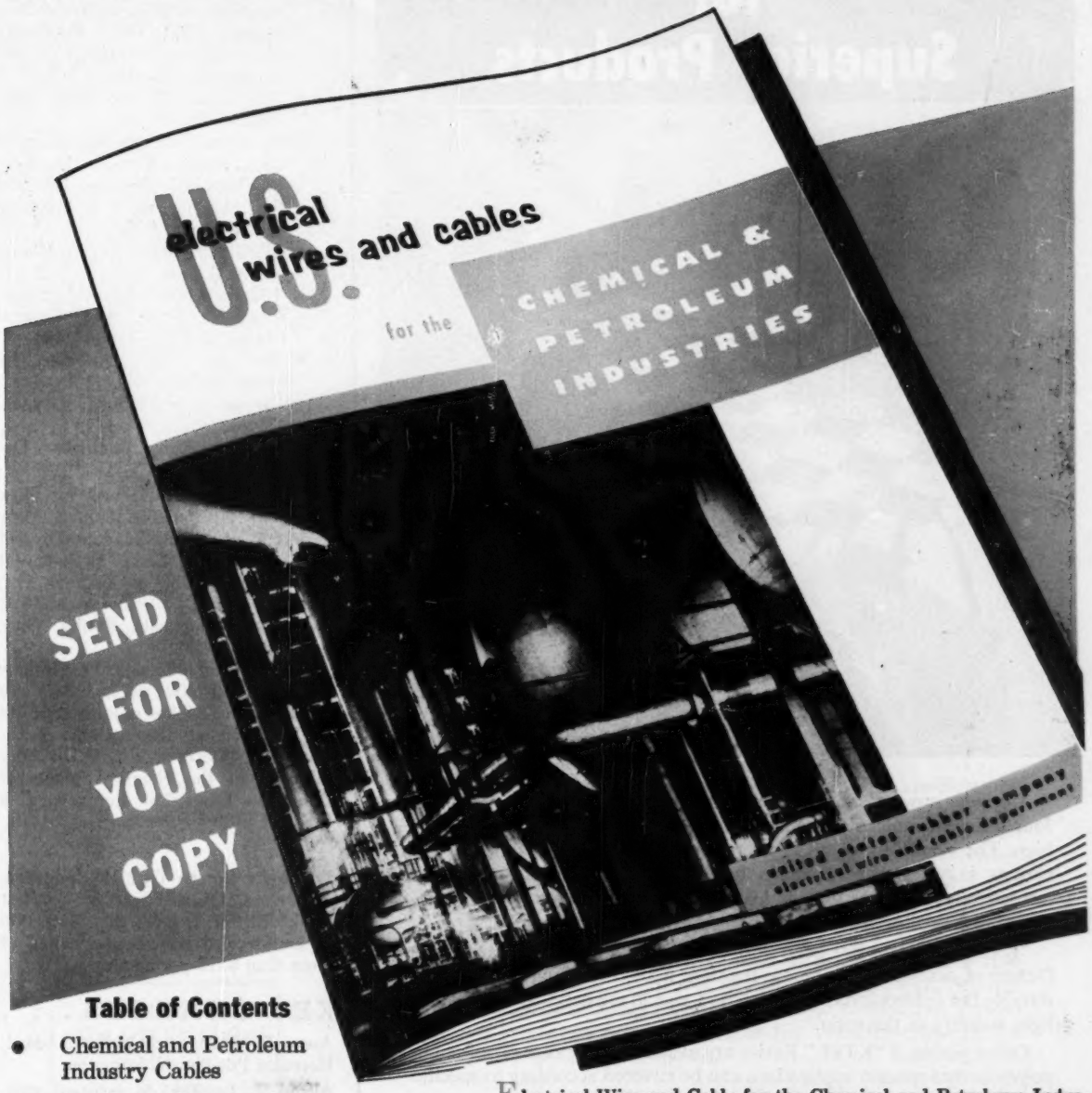
Call Quits: After a strike of 12 weeks (*CW Newsletter, May 2*), Gas-Coke members at the Lever Bros. plant in Hammond, Ind., have returned to work on terms that the company confirms are "exactly the same" as were offered before the strike, and which were accepted by the AFL Chemical Workers at five other Lever plants. Wage rates now range from $1.57 to $2.36/hour, according to the union.

•

Helium In Contracts: Recent chemical labor contracts pump still more helium into the wage balloon, which is now climbing even beyond the altitude shown in a CW article on this subject three weeks ago. Indications of latest trends in chemical wages are provided by the following pay increases granted by the following companies to United Gas, Coke & Chemical Workers (CIO):

- 4¢/hour—International Minerals & Chemical Corp. and Electro-Metallurgical Div. of Union Carbide and Carbon, both at their Niagara Falls, N.Y., plants.
- 4-8¢/hour—Koppers Co., Kobuta, Pa.
- 6¢/hour—P.M. Industries, Stamford, Conn.
- 6½-7¢/hour — Calco Chemical

New BROCHURE!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CHEMICAL & PETROLEUM INDUSTRIES
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electrical wire and cable department

Table of Contents

- Chemical and Petroleum Industry Cables
- Insulation Compounds
- Jacket Compounds
- Portable Cables
- Power Cables
- Control Cables
- Telephone Cables
- Tables

Electrical Wire and Cable for the Chemical and Petroleum Industries must have the right chemical, oil and corrosion-resistant insulations plus the right electrical and physical properties for the job. Insulations and jackets which may be excellent for one type of service may be unsatisfactory in another. United States Rubber Company, a specialist in manufacturing the *right* electrical wires and cables for the Chemical and Petroleum Industries, is the only wire and cable manufacturer growing its own natural rubber, making its own synthetic and plastic insulations.

The brochure shown above shows what "U.S." wires and cables to order for specific applications. Write to address below for your free copy.

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U.S. RUBBER

ELECTRICAL WIRE AND CABLE DEPARTMENT • Rockefeller Center, New York 20, N. Y.

"KTPL" STYRENE RESINS for Superior Products

• Koppers now offers these new low-cost "KTPL" styrene resins in four different molecular weight ranges—relatively low to moderately high. The versatility of "KTPL" resins adapts them for varied applications in waterproof coatings for paper, textiles, cable and wire insulation. Other uses include leather finishes, impregnation of twine, wood, and textiles, and as modifying agents for printing inks.

"KTPL-3" Resin has been designed specially for use in the manufacture of dent-resistant, grease-resistant floor tile, which is tough and durable but light-colored and attractive, due to the excellent clarity and light stability of the resin.

Other grades of "KTPL" Resins are available in a range of softening points so that specific applications can be covered according to specific job requirements.

"KTPL" Resins are produced and shipped in the form of fine beads in 200-pound net fibre drums or in 65-pound net multiwall paper bags.

For additional information about "KTPL" Styrene Resins, write Koppers for free Technical Bulletin C-3-177.

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Chemical Division • Dept. CW-7113
Pittsburgh 19, Pa.

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Koppers Chemicals

B & I . . . . . .

Div. of American Cyanamid, Newark, N.J.

- 7¢/hour—E. R. Squibb & Sons, six plants in New York and New Jersey; Paint Div., Pittsburgh Plate Glass, Newark, N.J.; and Koppers Co., Berkeley, N.J.
- 7½¢/hour—D'Orsay Sales, New York.
- 8¢/hour—Electro-Metallurgical Div. of Union Carbide, Marietta, O.; National Gypsum, National City, Mich.; and U.S. Gypsum, East Chicago, Ind.
- 9½¢/hour—Reilly Tar & Chemical, Chicago.
- 10¢/hour—Interchemical Corp., Elizabeth, N.J.; and General Chemical, River Rouge, Mich.
- 14¢/hour (average)—Linde Air Products, Milwaukee.
- 19¢/hour — Burdett Oxygen, Cleveland.
- 25¢/hour—Rox Products, Detroit.

Boosts are also claimed by three locals of District 50, United Mine Workers: at M. B. Suydam Div. of Pittsburgh Plate Glass, 8¢/hour; at Tar Products Div. of Koppers Co., Everett, Mass., 10¢/hour; and at Naugatuck Chemicals, Elmira, Ont., 11¢/hour.

International Chemical Workers Union (AFL) says its members are receiving wage hikes ranging from 4¢ to 11¢/hour at International Fertilizers Co., Quebec; and CIO Distillery Workers in the chemical plants of Publicker Industries are getting a 9½¢ lift.

•

Longevity Bonus: To 2,425 long-time employees, Chas. Pfizer & Co. last week distributed more than $280,000 as long-service bonus—an average of more than $115 per employee.

KEY CHANGES . . .

Anson B. Nixon, to chairman of board, Hercules Powder, Wilmington.

Alfred T. Loeffler, to assistant vice-president, chemical divisions, Food Machinery & Chemical, New York.

James H. Lum, to director of development, organic chemicals division, Monsanto Chemical, St. Louis.

Eric R. Braun, to assistant to vice-president for operations, Merck & Co., Rahway, N.J.

Peter Jandrisevits, to director, engineering division, Merck.

John J. Grebe, to director of nuclear research and development, Dow Chemical, Midland, Mich.

John B. Calkin, to assistant to president, Foster D. Snell, New York.

BENDS LIKE THIS

CAN CUT YOUR TUBING COSTS

It takes uniformly ductile tubing . . . easily workable . . . to make these hairpin bends. Uniform wall thickness is important, too. And so are uniform diameter, uniform concentricity and uniform strength.

You'll find all these features . . . and more . . . in Republic ELECTRUNITE Pressure Tubing. ELECTRUNITE Tubing has no hidden defects. It's made from flat-rolled steel that's inspected on both sides *before* the tubing is formed. Result: tubing that's free from scale, scabs and slivers . . . has a fine surface that helps resist corrosion . . . has no longitudinal thin spots.

Whether you're interested in re-tubing . . . or new equipment . . . it will pay you to specify ELECTRUNITE Pressure Tubes. Available in both carbon and various stainless analyses. Write for booklet CEC-53 for complete information.

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insecticide odorants

Wide experience in producing and developing insecticide raw materials has enabled D&O to develop the most effective insecticide masking odors. D&O insecticide perfumes will cover the odor of Pyretheum and Kerosene when used in the finished product. Write for trial quantities of Mimosa 8029, New Mown Hay 7766, Petrola 8674, Verbena 8675, and Froleum 45.

D&O

odorants for Dairy Sprays

For sweetening the air in dairies and creameries a water-soluble perfume base, compatible with alkaline solutions, is required. Osols, a specialty group of D&O fragrances, have been specifically designed for this purpose. Individual testing is recommended with Osol Red Clover 40-R-3468, Vanillel 40-R-3670, Lavender 40-R-3448, and Orange Blossom 40-R-3993.

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RESEARCH . . . . .

USDA

SECRETARY BENSON (left): For a friend, a pointer on a $1-billion poser.

Saved by a Surplus

If the administration's budget cutters found a vulnerable target in the sprawling Dept. of Agriculture, they showed little desire to indiscriminately press their advantage. Entirely unscathed by the economy axe was a whopping $62.7 million earmarked for Agricultural Research Administation.

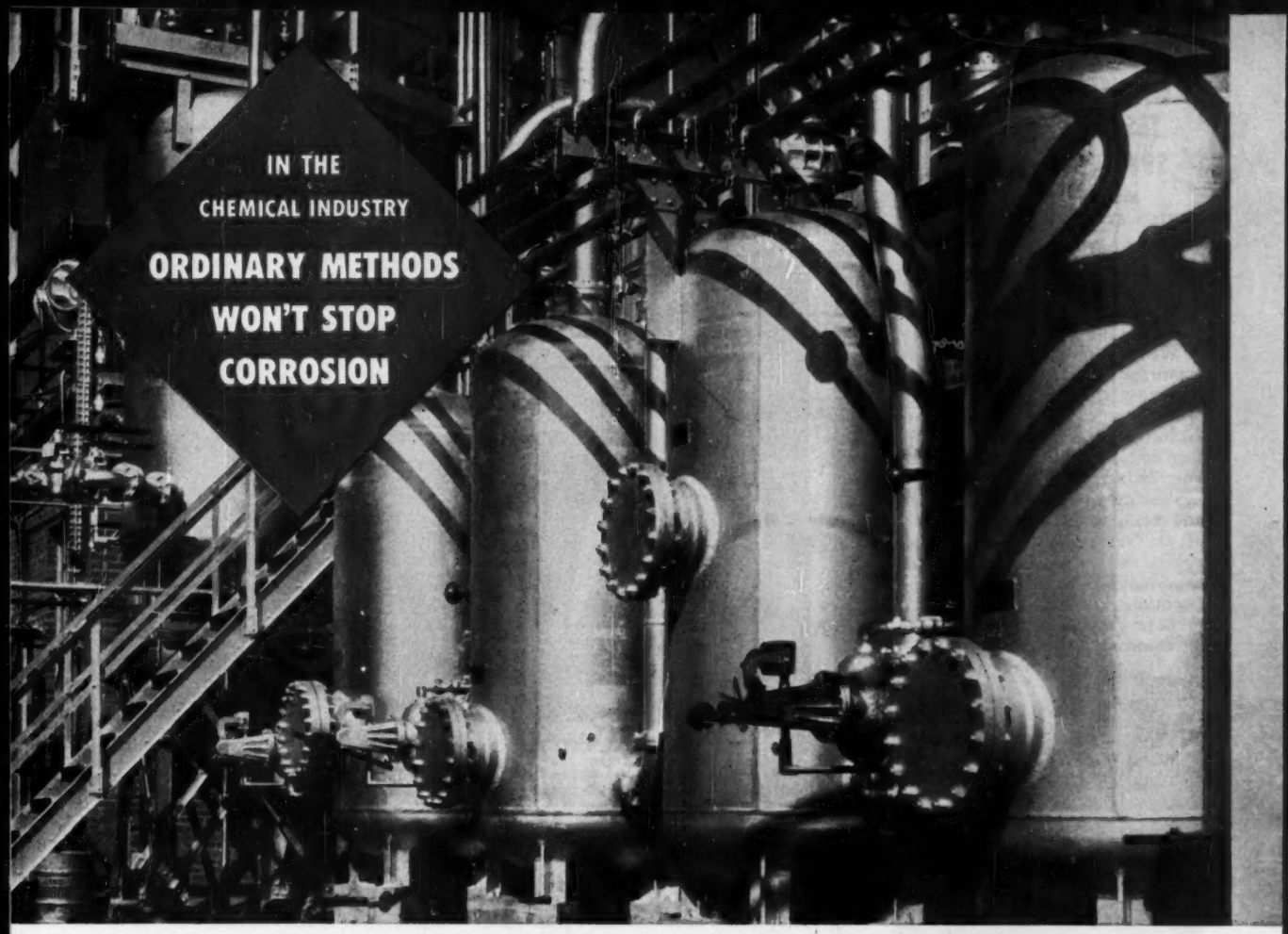
It's the exception, however, that highlights the restraint of the axe wielders; ARA is the only Agriculture Dept. agency to come off with more money than it had for fiscal 1953.

Reason for this budgetary anomaly is as plain as the huge government owned stocks of surplus butter, wheat, cotton, etc. Attuned to the bleats emanating from the Congressional farm bloc, Senate Agriculture Committee Chairman George Aiken (R., Vt.) judiciously declined to recommend action that might cut USDA's potential for putting these commodities to new and gainful uses. Taking the same cue, Secretary Ezra Benson and his assistant in charge of research, J. Earl Coke, are bending more of the department's research toward the utilization of surplus commodities.

They're not looking through rose-colored glasses, don't expect research to provide the magical solution to their immediate problems. But they do see in research the key long-term hope for moving the surpluses out of storage. Needless to say, the job won't be easy; in some cases, it may well prove impossible. Wheat, for example—one of Benson's biggest problems—just doesn't lend itself to neat market expansion schemes.

But for most other surplus crops, USDA researchers already have come up with a flock of hopeful ideas. Here's part of them:

• One result of the effort to develop applications for detergent-dis-



SPECIFY THE AMERCOAT METHOD— Designed to Give You *PLUS* PROTECTION

Ordinary methods for controlling corrosion usually produce the ordinary results—rapid paint failure, costly replacements, product contamination, excess down-time, and hampered production. Halfway measures and the use of one or two general purpose coatings simply cannot provide adequate protection against corrosion's ceaseless attack.

Amercoat gives you a proven method of corrosion control, assuring you proper protection through these PLUS features:

1. Careful analysis by a trained engineer of all the conditions present in each corrosion problem.

2. The ONE best recommendation for the particular problem. AMERCOAT is a complete line of coatings, each formulated to solve or control specific corrosion problems.

3. On-the-job assistance to your applicators and supervisors by a trained engineer. The AMERCOAT method ensures proper attention to surface preparation and application techniques for maximum protection.

4. Complete stocks of fresh materials always near you at one of AMERCOAT's five regional warehouses or more than 20 franchised distributor warehouses throughout the United States.

5. Service based on experience. The AMERCOAT method of corrosion control is the result of nearly 20 years' experience in solving or controlling corrosion problems in every major industry throughout the United States.

Write today for the name and address of the AMERCOAT representative in your area. At no obligation, he will gladly help you analyze your corrosion problems and evaluate your present control measures. If it is determined that you have a problem within our scope of experience, he will outline a complete program of AMERCOAT's PLUS protection for your plant or equipment.

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Testing instruments designed and manufactured by us encompass all the advancements and serviceability factors which our years of experience have shown us to be essential.

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The United States Testing Company, Inc. is a service organization for testing, inspection, research, and product development. It serves practically every segment of industry in fields of chemistry, biology, physics, and engineering. A staff of over five hundred persons is always ready to concentrate a maximum of professional skill upon each project.

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WIDE WORLD

BENSON AND AIKEN: Both heard the same noises.

located non-edible fats is a novel method of preparing oxidized derivatives. By means of peracetic acid, epoxidized long-chain fats are produced in good yield by a patented Eastern Regional Research Laboratory process. They make effective vinyl plasticizers and stabilizers, are commercially produced (*CW, May 2*).

• To get around phase separation in butter and margarine, researchers of Northern Regional Research Laboratory have devised an all-climate spread. Containing vegetable oils, monoglycerides, vitamins, flavoring and surface-active agents, the new material won't separate into a water and fat phase, spreads at tempera-

How the beefed-up Dept. of Agriculture research budget will be spent.

(in millions of dollars)

Bureau of Animal Industry		**27**
animal disease studies	13*	
Bureau of Plant Industry, Soils & Ag. Engineering		**12**
field crop investigations	4	
horticultural crop investigations	4	
soil, fertilizer and farm implement studies	4	
Bureau of Entomology & Plant Quarantine		**12.4**
insect investigations	4	
insect & plant disease control work	5.6†	
Bureau of Agricultural & Industrial Chemistry		**8**
to support regional research labs	8	
Bureau of Dairy Industry		**1.8**
research in production and use of dairy products	1.8	
Bureau of Human Nutrition & Home Economics		**1.5**
nutrition, clothing, home economics studies	1.5	
Office of Experiment Stations		**13‡**
grants to support joint federal-state research	13	
		62.7‡

* Balance of $14 million for payroll & other non-research expenses in federal meat inspection program.
† Balance of $2.8 for operational expenses in plant quarantine program.
‡ Total is centralized USDA research, excludes $13 million in state grants.

The Philosopher's Stone

In the Middle Ages the alchemists sought to make—with the aid of Sulphur—a wondrous thing called the "philosopher's stone". With this "stone", they planned to work miracles of many kinds. They hoped, by touching it to base metals, to convert those metals into precious gold.

Although the alchemists' dreams for Sulphur were never realized, Sulphur adds to mankind's natural wealth through its role in fertilizer. It enhances the earth's riches by helping to convert air and soil constituents into growing plants. Sulphur is used not only in the form of sulphuric acid for the manufacture of most fertilizers but also as an ingredient in many of them to correct soil deficiencies. Thus, through increased yield from our agricultural lands, Sulphur makes another basic contribution to supplying the world's necessities.

FREEPORT SULPHUR COMPANY, *oldest United States producer of crude sulphur, has been supplying this essential raw material for over 35 years.*

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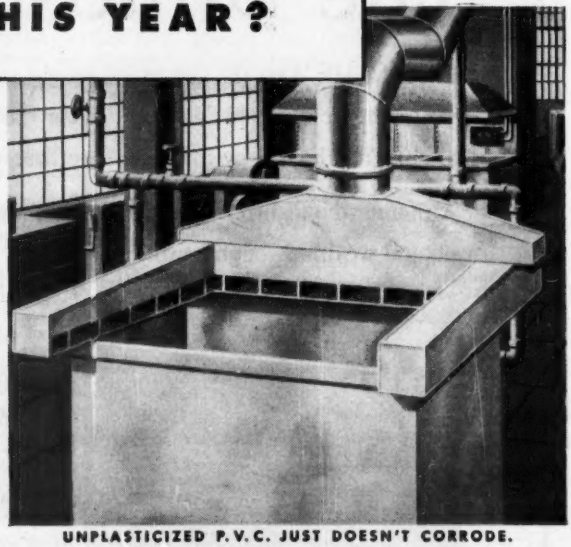
HOW MUCH WILL CORROSION COST YOU THIS YEAR?

CHEMICALS CAN CORRODE METALS IN 12 MONTHS OR LESS.



UNPLASTICIZED P.V.C. JUST DOESN'T CORRODE.

Not a cent ... IF YOU SWITCH TO

UNPLASTICIZED P.V.C. MADE FROM FIRESTONE EXON 402-A

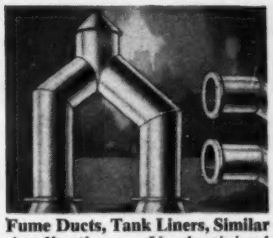
Unplasticized P.V.C. is a new material of construction that is highly resistant to most corrosive elements. In many industrial applications, it has proven to be superior—less expensive—than customary metals. Check carefully the advantages of Unplasticized P.V.C. Then, for detailed information on how this new material of construction can help you in *your* business, consult Firestone Chemical Sales Division.

COST YOUR CUSTOMERS THIS YEAR?

Not a cent... IF YOU SELL THEM

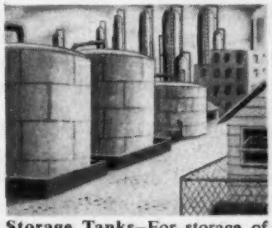
UNPLASTICIZED P.V.C. MADE FROM FIRESTONE EXON 402-A

Implements—Pitchers, scoops, stirrers fabricated from Unplasticized P.V.C. made from EXON 402-A are invaluable in handling corrosive materials. They are extremely light...easy to handle... practically eliminate replacement.

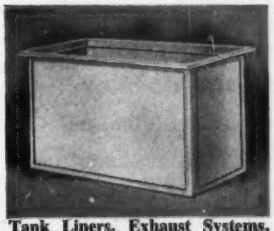


Fume Ducts, Tank Liners, Similar Applications – Unplasticized P.V.C. made from EXON 402-A is ideal for fume ducts and tank liners. It is highly resistant to moisture, acids, oxygen, sunlight, aging and other corrosive elements.

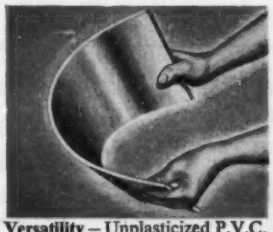
Industrial Pipe—Naturally, piping extruded from Unplasticized P.V.C. made from EXON 402-A is resistant to all types of corrosion. It is extremely light weight in comparison to metal...easier and less expensive to handle.



Storage Tanks—For storage of corrosives, tanks fabricated from Unplasticized P.V.C. made from EXON 402-A are resistant to corrosion and weather, virtually eliminating maintenance and replacement costs.



Tank Liners, Exhaust Systems, Similar Applications—Highly resistant to corrosion, Unplasticized P.V.C. made from EXON 402-A is ideally suited for tank liners, exhaust systems and a wide variety of other industrial applications.



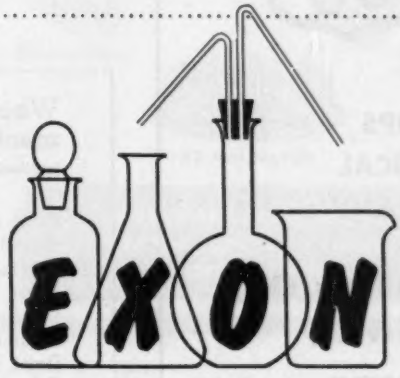
Versatility – Unplasticized P.V.C. made from EXON 402-A can be welded, sawed, sheared, stamped, milled, planed, drilled, embossed, rolled, cemented. It is easily worked on conventional metal and wood working equipment.

AMERICA'S leading manufacturers are becoming more and more *corrosion conscious!* And no wonder. Every year, corrosion costs industry millions of dollars.

That's why Firestone has scheduled an entire series of full-page advertisements now appearing in *Business Week, U. S. News and World Report* and *Corrosion.* (Elements from several of these provocative ads have been reproduced on these pages.)

These advertisements were designed with one thought in mind: to suggest Unplasticized P.V.C. to businessmen as a possible solution to *their* corrosion problems. Results from the first ads in this series indicate that they are stimulating wide interest in this new material of construction.

Have *you* considered ways in which you can adapt this new material of construction to products you now make or could make with your present production facilities?



You can get detailed information on Unplasticized P. V. C. applications by calling or writing:

CHEMICAL SALES DIVISION

FIRESTONE PLASTICS COMPANY • POTTSTOWN, PA., DEPT. 14H

Division of Firestone Tire and Rubber Co.

AVAILABLE NOW!

MVP

2-METHYL-5-VINYL PYRIDINE

This new monomer is available in drum and tank truck quantities. Possible interesting applications in resins, fibers, and elastomers.

For information, quotations and samples write:

Phillips 66

PHILLIPS CHEMICAL COMPANY

722 Adams Bldg.
Bartlesville,
Oklahoma

How the nation's over-all research effort was paid for in 1952.

(in millions of dollars)

Privately financed		1,400
industry	1,000	
foundations, etc.	400	
Federally financed		1,800
Defense Dept.	1,300	
other agencies	500	
Total		3,200

The extent of private support of basic research is not known. But in 1952 the . . .

. . . Federal government spent		140
Defense Dept.	32	
other agencies	108	

Where were these Federal funds spent in 1952?

Government and industry labs	65
non-profit institutions	75

Source: Research & Development Board; National Science Foundation.

tures from 0 F to 110 F and higher. Army Quartermaster Corps is now testing it on GIs.

• Modified cottons are the goals of a long-standing USDA research program. Four main types have been achieved: water-soluble (for basting thread and lace effects); flame proof; heat resistant (ironing board covers, etc.); two-way stretch (elastic bandages).

• Too costly for industrial exploitation, butter is restricted to food applications. One plan: to perfect a mixed oleo-butter. Food and Drug Administration has given tentative approval, but wants to keep an eye on manufacture and marketing of the hybrid.

• Another way to cut the mounting butter surplus is to reduce butter production, increase consumption of milk. To this end USDA is working on canned whole milk. It should be cheaper than fresh milk, but it's a long way from the market. Several kinks (e.g., off-taste) must be ironed out.

• The common potato also is the focus of a serious surplus-cutting effort. Bright ideas: improved dehydrated mashed potatoes; and a compact bar of compressed potato chips for military rations.

• Synthetic lubricants, antioxidants, resins and varnish-making chemicals are products of the department's drive to open new outlets for naval stores.

Who spends Uncle Sam's research and development dollars?

(millions of dollars, by fiscal years)

	1952	1953-est.	1954-est.
Dept. of Defense	1,316	1,400	1,300
Atomic Energy Commission	250	260	266
Advisory Com. for Aeronautics	67	79	88
Dept. of Agriculture	57	58	63
Dept. of Health, Ed. & Welfare	65	74	59
Dept. of Interior	33	37	34
Dept. of Commerce	28	24	26
Other agencies	24	26	29
Total	1,840	1,958	1,865

Source: National Science Foundation and CHEMICAL WEEK.

Your customers will want this Pail Closure

YOUR customers will want the *American Flange Pail Closure* —the combination that:

has a strong rigid spout—either polyethylene or metal—which hooks and directs flow into opening and easily supports the pail while pouring . . .

easily opens and sets up for use . . .

gives customers multiple re-uses of the container.

And the American Flange Pail Closure gives your product protection from tampering, leakage and seepage.

Tamper-Proof Seal is crimped securely over screw cap. Seal is easily removed by just lifting tab and tearing along scored lines. Cap is then unscrewed and spout reversed for pouring. Large nozzle for re-filling.

Reversible spout makes handling easy both in shipping and stacking containers.

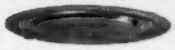
For tight-head or open head containers—3½ to 12 gallon capacity—22 to 26 gauge.

The American Flange Pail Closure complies with I. C. C. and C. R. C. specifications.

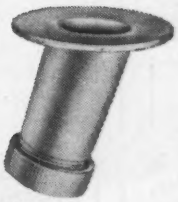
American Flange Pail Closures

Tamper-proof Seal

63 MM Screw Cap



Disc



Polyethylene Spout

Metal Spout

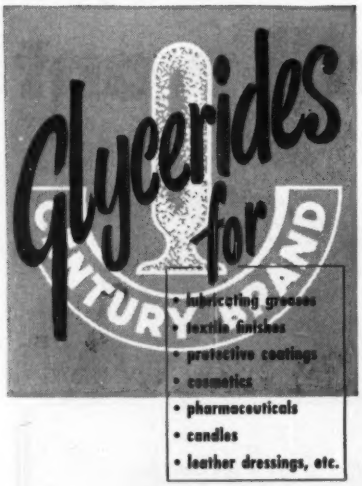
63 MM Nozzle

INTERCHANGEABLE SPOUT
Use the spout best suited to the product shipped

Specify American Flange Pail Closures when you order pails! For further details—including information on seals with your private design—write to us.

AMERICAN FLANGE & MANUFACTURING CO. INC., 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Tri-Sure Products Limited, St. Catharines, Ontario, Canada



CENWAX G
(Hydrogenated Castor Oil)

CENWAX is a glyceride chemically, although physically it resembles a wax. It is a hard, high melting point solid, available in finely beaded form, with practically no taste or odor. Typical applications are in lithium, barium or sodium greases; hot-melt paper coatings; extender for higher priced waxes in polishes. These CENWAX G specifications should suggest other uses:

F. F. A. (as Oleic Acid)	2.0 max.
Acid Number	4.0
Saponification Number	176 — 184
Iodine Value (WIJS)	1 — 5
Melting Point (°C)	82 — 85
Hydroxyl Value	155 — 165
Acetyl Value	137 — 148

CENTURY HYDREX 360
(Hydrogenated Tallow Glyceride)

This hardened tallow product is available in beads and its good color, high titre and low iodine value particularly suit it for use in certain textile finishes and lubricating greases.

Specifications

Titre (136.4-140.0°F)	59—60.0°C
Iodine Value (WIJS)	1—3
Free Fatty Acid	1—3%
Acid Number	2—6
Saponification Value	190—195
Color 5¼" Lovibond Column (Max.)	15 Yellow—2 Red

W. C. HARDESTY CO., INC.
CENTURY STEARIC ACID PRODUCTS, INC.
41 East 42nd St., New York 17, N. Y.
Plant: Dover, Ohio
In Canada: W. C. Hardesty Co. of Canada Ltd. Toronto

Derived from turpentine, several of these materials are now in military and industrial use.

No one expects the researchers to find a fast cure for the commodity surplus headache. To be realistic, any significant contribution to the problem would take several developments of top-drawer commercial significance. Truth of the matter is that new USDA-developed outlets will have to have a voracious appetite to eat up more than $1 billions worth of government paid-for and hoarded commodities.

•

Wood Binder: A new phenolic resin for binding granulated wood is available from plastics division of Monsanto Chemical Co. Tagged Resinox 743, the newcomer offers, according to Monsanto, "the two properties most sought after in a binder for granulated wood—high flow and fast cure . . ."

•

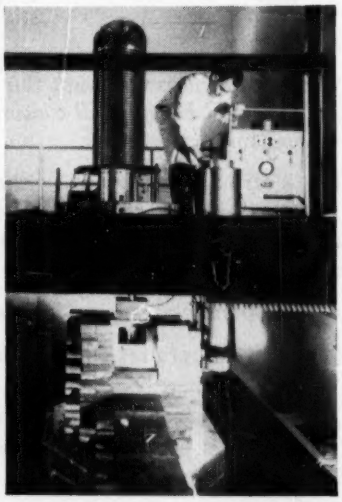
Glass Bonding: Owens-Illinois Glass Co. (Toledo, O.) recently began construction of a technical center in Toledo. Designed to consolidate the company's general research program with the various engineering activities, the firm hopes to cut the time lag between research and aims to improve present processes application and products.

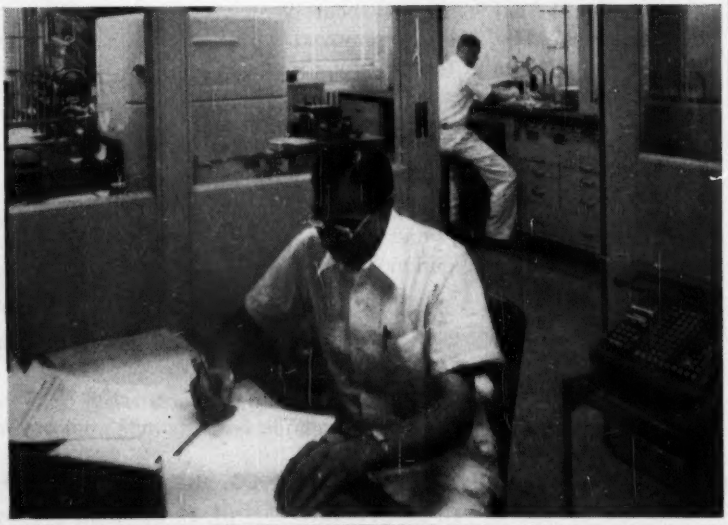
•

Price List: For those interested in new compounds "useful in special research," General Biochemicals, Inc.'s (Chagrin Falls, O.) June '53 catalog is now available; prices and quantities are quoted.

Keeping Up With the Times

A TWO-MILLION-VOLT Van de Graaff generator (*right*), used to study cold electronic sterilization, sets off the relatively more prosaic studies carried on in the organic research laboratory (*below*). It's all a part of Upjohn Co.'s effort to keep pace with the times at its remodeled research center (Kalamazoo, Mich.) Growth has paralleled technological progress within the Midwest pharmaceutical firm's research arm. Established in 1913, the Upjohn research division was launched by one man in 160 sq. ft. of laboratory space. Today the company maintains a research staff of more than 400, provides approximately 200,000 sq. ft. of working area.





• Davison Bulletin •

CONFIDENTIAL CONFIDE

Confidential handling of catalyst problems is one of the reasons why Davison is the major catalyst producer in the country. Intricate coding plus restricted internal distribution keeps your catalyst secrets safe in Davison hands.

Davison recognizes that catalysts are the heart of chemical reactions, therefore, they are a most carefully guarded secret.

And Davison is equipped to meet the requirements of almost any given catalyst problem.

Bring your catalyst problem to Davison where you are assured of confidential handling. Call your Davison Field Service Engineer or write.

HYDROGEL
to induce microporosity

Manufacturers are using economic hydrogel to induce microporosity in rubber, resins and plastics. Material is a highly hydrated amorphous silica. The hydrogel, which is incorporated in rubber products, shrinks during drying operations thereby inducing porosity.

Davison hydrogel (SiO_2) x H_2O is colorless, translucent and available in semi-solid lumps or finely divided. The range of pH is 5.7 — 6.8.

For further information, samples, priced — call your Davison Field Service Engineer or write.

SOME STANDARD CATALYSTS AVAILABLE

V_2O_5 · K_2SO_4 on Silica

SiO_2 · Al_2O_3 Combination

Pt · SiO_2 Combination

$Hg\ Cl_2$ on Charcoal

Progress Through Chemistry

THE DAVISON CHEMICAL CORPORATION

Baltimore 2, Maryland

Producers of:
Catalysts, Inorganic Acids, Superphosphates, Phosphate Rock, Silica Gels and Silicofluorides. Sole Producers of DAVCO Granulated Fertilizers.

Please send me information on

☐ Product Data Sheet — Davison Hydrogel

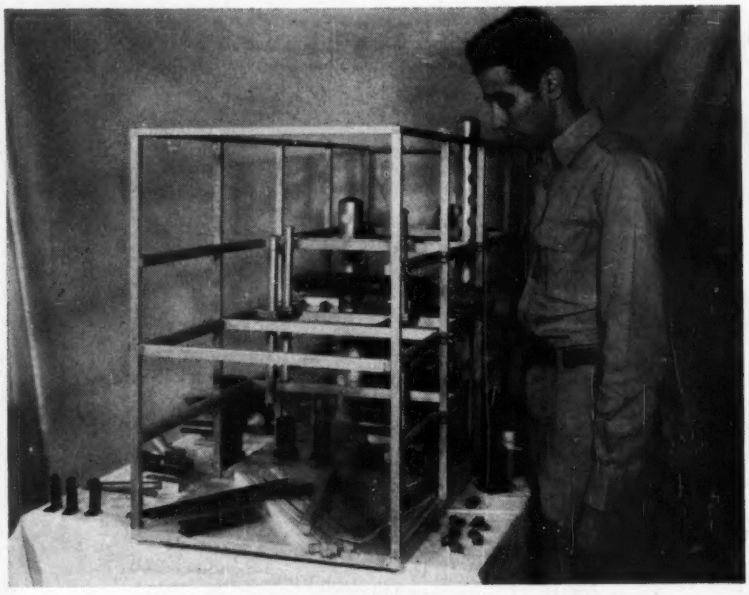
☐ Specialty Catalysts

Name ..... Title.....

Company .....

Street .....

City ..... Zone.... State.....



SCALE MODEL: Make the changes before the plant.

Cheaper With Miniatures

A model engineer deals in milimeters rather than feet. He's the man who interrupts the normal sequence of building a plant (between the drawing board stage and actual construction) to make a scale model of it. And more and more chemical companies are becoming convinced that he pays his own wages.

You can't, of course, get everyone to agree on the value of scale models. For there is some vocal opposition to the whole idea, particularly among old-line construction engineers. Scale models, they say, are time-consuming, costly—and unnecessary. But proponents of scale models counter their objections with an argument that runs like this: The models may be expensive, but no matter how thoroughly a process has been piloted or how carefully the plant has been designed, there are bound to be mistakes in the arrangement of piping, the layout of equipment or controls. And it's a lot cheaper to correct these mistakes on a scale model than in a commercial plant. Moreover, they add, building a scale model needn't take a long time.

To bolster their arguments, this same group points to the growing number of chemical and process firms that are sold on the idea of scale models. Union Carbide's Bakelite has just set up its own model shop, and Fluor Corp. (Los Angeles) has had one for some time; International Minerals and Chemical, Procter & Gamble, Du Pont, Carbide, and Canadian Industries Ltd., among others, have used scale models profitably.

But probably the biggest booster of scale model plants for the process industry in the country is Jeff Bowen, president of Industrial Scale Models, Inc. (Wilmington, Del.). Since his firm specializes in making them, his interest in the miniature plants is easily understood.

Picking Up Speed: Bowen started making models in his spare time while working as a project engineer for Du Pont. Soon they were occupying so much of his time he decided that model making could be a full-time job. In 1948 he started out with a partner (whom he bought out shortly afterwards) and one employee. He now employs over 40 people (including 12 engineers), has shops in three cities (Wilmington, New York, Cleveland) and confidently looks forward to a big year (expected gross: $400,000-$500,000).

As Bowen points out, when talking about scale models you have to distinguish between engineering models built parallel with, or prior to, design, and training or sales models built after design is complete. Training models* have been used for years by many industries. Even engineering models have been used by mechanical industries for some time. (Visual Planning Equipment in Oakmont, Pa., a specialist in that field, says it can produce from stock scaled-down versions of 10,000 standard items of production, material handling and office equipment.) But the process industry's interest in them is relatively new.

The big difficulty in making models of process plants has been to reproduce the maze of piping and intricate equipment. That takes time, which can easily push the costs of the models out of range. Says Bowen, "You've got to make them fast. We found it's more important for a model to be functional than aesthetic. One of our problems was to convince artists we had hired as model makers. Some of them could turn out works of art, pumps and heat exchangers that your wife would be proud to hang around her neck. But they're no good if they can't be built fast."

BOWEN: The need is for speed.

Bowen figures an engineering model can be built for about 0.3% of the total investment in a plant, a training model for 0.1%. For a $10-million plant, then, an engineering model would cost $30,000. But for the same plant, piping would cost $2 million, piping drawings, $300,000; engineering, $1 million. As he figures it: "It doesn't take many simplifications on the piping arrangement or elimination of drawings to get the $30,000 back."

Another big advantage of the models, says Bowen, is that they make life easier for the subcontractor, who, instead of wading through pages of

* Supplied by a great number of companies. Classified Directory of New York City's 1953 telephone book lists 63 industrial model makers.

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Dow Corning Antifoam A is odorless, tasteless and physiologically harmless. And it is most economical to use because it is effective in such amazingly low concentrations. Dow Corning Antifoam A can be used as received, dispersed in a solvent or mixed with one of the foaming ingredients.

Dow Corning Antifoam A Emulsion is widely used in the industrial processing of aqueous foamers. Dow Corning Antifoam AF Emulsion is equally effective in aqueous systems and designed for use in the food processing industries.

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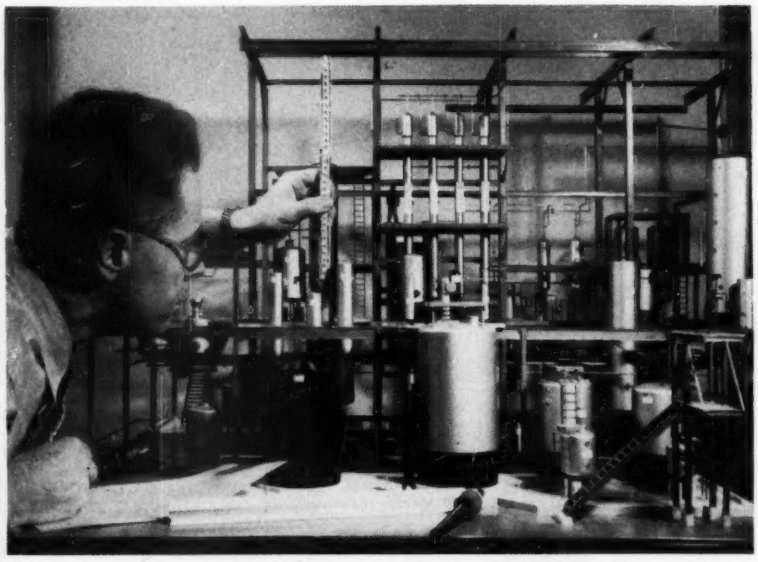


C.I.L.'S MODEL: After the trial, conviction.

engineering drawings, can quickly visualize the complexity of the job. Singmaster and Breyer (New York) reports that piping bids on a job were 15-20% lower from subcontractors who saw a model than from those who saw only drawings.

Bowen also thinks the models permit more intelligent planning and scheduling for the construction force in the field. He adds that it's often easier to train operators on models. Assuming the $10-million plant was expected to earn $15,000/day before taxes, it would be important to have the operators trained so that the plant could hit its rated capacity as soon as possible.

Here to Stay: In spite of some strong opposition to the idea of scale models, an impressive array of engineers echo Bowen's opinions. Says IMC's Chief Engineer Tom Ware: "We used one for our Bonnie (Fla.) plant, found out that besides having eye-appeal, the model was a tremendous help in estimating and engineering the big plant." For the actual model construction, IMC called in Raymond J. Wielgus of Product Models (Chicago) who also reports having done work for Universal Oil and American Maize Products.

And speaking of the scale model made for the firm's nylon intermediate plant at Maitland (Ont.) CIL's F. S. McCarthy says, "We are satisfied that the money was well spent and are convinced that we will use scale models on any similar future design."

BOWEN: They have to be functional.

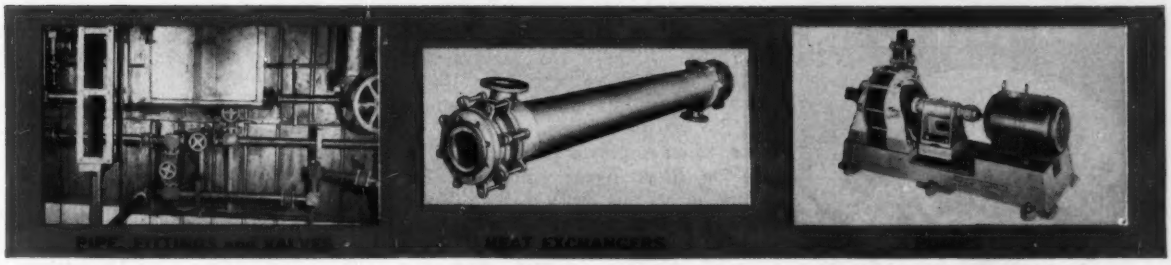
In Three Directions

In an unusual burst of activity—even for the booming, bustling chemical process industries—news of three new processes emerged in breathless succession last week. But they had to vie for top billing with a report on a successful sulfur recovery unit and a spate of significant, recently issued patents.

• Buffalo Electro-Chemical staked out a claim on a new process said to be cheaper than methods presently employed for making mercuric acetate. Briefly, the new process consists of reacting peracetic acid and glacial acetic acid with metallic mercury. That precipitates mercurous acetate, which in turn is oxidized to the mercuric form by heating it in the presence of peracetic acid. But, warns

THE NATIONAL CARBON *LINE*

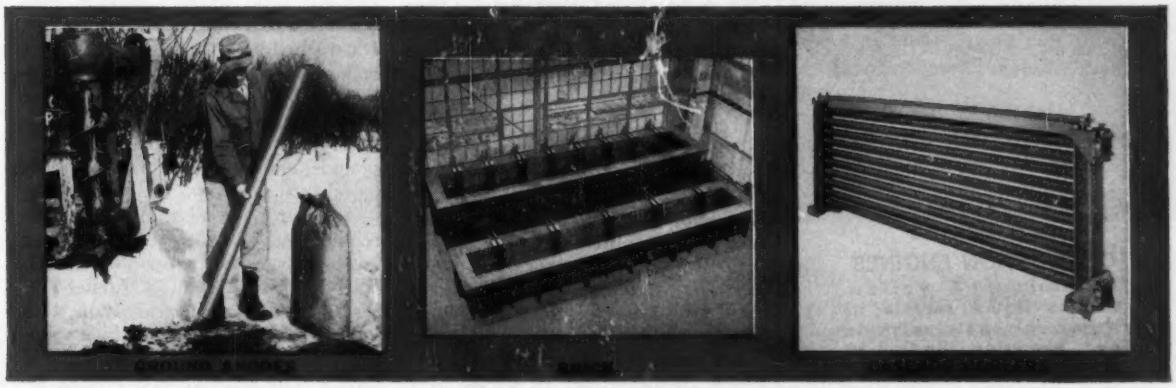
Specify "National" Carbon and Graphite and "Karbate" Impervious Graphite Equipment for Processing and Conveying Corrosive Fluids.



For industry's toughest fluid-conveying requirements. Easy to install and maintain with simple hand tools. Catalog Section S-7000.

Standard or custom-built; shell and tube, concentric and immersion types in stock sizes. Catalog Sections S-6620 S-6670, S-6740, S-6750.

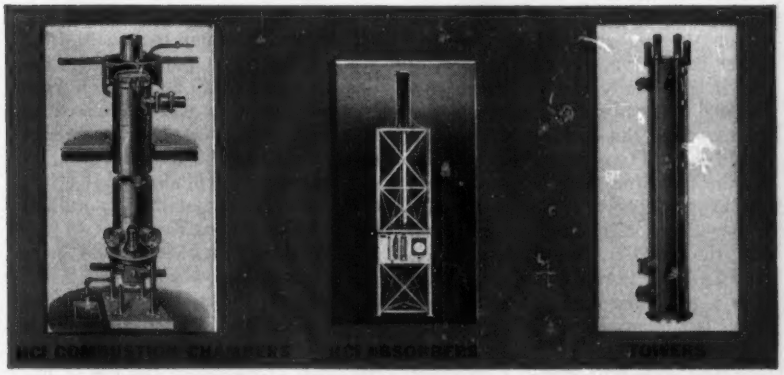
The centrifugal pump for handling corrosive fluids. Rugged, trouble-free design. Handling capacities to 800 G.P.M. Catalog Section S-7200.



"National" Graphite Ground Anodes for cathodic protection of buried or submerged metal structures. Catalog Section S-6510.

Accepted material for lining tanks, towers, digesters and other vessels containing corrosive chemicals. Catalog Section S-6210.

New "Karbate" coolers feature standardized, sectional construction... high heat-transfer rate... low initial cost Catalog Section S-6820.



Versatile, standard equipment for hydrogen chloride synthesis. Burns moist gases. Simple in operation. Catalog Section S-7530.

Compact, light-weight unit produces up to 20 tons per day of 22° Baumé acid. Minimum installed cost. Catalog Section S-7460.

For absorption, fractionation, scrubbing. Easily erected from standard sections and components. Catalog Section S-7350.

For further information write to National Carbon Company

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Characteristics: A yellow viscous liquid soluble in water, alcohols, glycols and glycerine. Sp.G. 1.30 pH (10% Aq. Soln.) 7.9-8.3

Use: 2.5% in a suitable cooling liquid will inhibit the formation of rust in airplane, automobile, marine engines and industrial cooling systems.

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BEACON

Chemical Industries, Inc.

BOSTON 40, MASSACHUSETTS

PRODUCTION

Becco, in order to get an uncontaminated product, the peracetic acid must be prepared by using a catalyst other than sulfuric. Nitric acid, for instance, can be used because it will not form insoluble mercury compounds in the reaction.

Current processes for making the mercuric acetate start with a mercury salt rather than the metal. But Becco figures that it is inherently cheaper to start with the metal. Big stumbling block in the past has been the poor reactivity of mercury metal. It now thinks that with peracetic acid it has the clue to make the reaction go. Claiming yields of practically 100%, the firm says it has patent applications on file for the process.

• In an employee publication, *The Sabine River News* (published for workers at the firm's Sabine River Works in Orange, Tex.), Du Pont revealed that it is experimenting with a method it hopes will result in increased production of the nylon intermediate, adiponitrile. This is the background on the process: the adiponitrile unit was shut down about a year ago after the discovery of a more economical method of doing the job, has been held in stand-by condition ever since.

The plant has been reactivated for the experiment. And though Du Pont is sitting tight on details of the new process, it does say that if the experiment pans out, it "will mean an improved sales position for nylon in competition with other fibers."

• The word on the third process came from a meeting of the technical section of the Canadian Pulp and Paper Assn. at Saranac Lake (N.Y.), where the Va-Purge technique was described. It was developed by the Pulp and Paper Research Institute of Canada, is presently being used by Pacific Mills, Ltd., and Hinde and Dauch Paper Co. of Canada. In addition, it was reported that several other firms have applied for rights to use it. Essentially, the Va-Purge process makes use of steam under pressure to speed up the cooking of chemical wood chips. The meeting heard reports by the two firms using it, also reports on experiments at mills of Canada Paper Co., Champion-International Co., the KVP Co., Price Bros. and Co., and Bathurst Power and Paper Co.

• Completing its first year of operation last month, Gulf Oil's sulfur recovery unit at its Wadell natural gasoline plant was pronounced a complete success by firm officials. In its first 12 months of operation, it turned out 12,750,000 lbs. of sulfur. It has a rated capacity of 44,000 lbs./day, recovers about 90% of the sulfur contained in entering gases.

Gulf's unit was set up to recover sulfur in the gas removed from the main stream and flared, after the stream is sweetened. It splits this gas into two streams. One is fed to the boiler fuel boxes, burned and then returned to the original stream. Sulfur is then removed by a single-phase, modified Claus process.

Patent Progress: Meanwhile, the patent office continues to issue patents. It's hard, of course, to separate the significant from the trivial in the bare details of the patents themselves. But these are the ones CW nominates as those that have either achieved, or are likely to achieve, commercial stature:

• Vanadium. Union Carbide and Carbon received a patent (U.S. 2,640,754) for treating carnotite. In the process, the ore is treated with sulfuric acid to form insoluble calcium sulfate and a liquid containing compounds of uranium and vanadium. The slurry is separated into components and the solid fraction roasted, then converted to a water-soluble vanadate. It's washed, and the insoluble residue is leached with dilute acid. The resulting solution is combined with the mother liquor from the original slurry, and uranium and vanadium compounds are recovered from it separately.

• Sugar Cane Wax. A method for refining and bleaching sugar cane wax has been patented by Australia's H. H. Hatt and associates (U.S. 2,640,841). It's essentially demineralization with hydrochloric acid, followed by a vacuum distillation and a chromic acid bleach. The same general process attracted the attention of wax producers in this country over 18 months ago (*CW, Dec. 22, '51*).

• Ammonium sulfate. A long-proposed process for getting ammonium sulfate and calcium carbonate from gypsum has been patented by Phillips Chemical (U.S. 2,640,757). Phillips at one time was interested in making a marketable product out of gypsum obtained as a sludge from its superphosphate production (*CW, Oct. 13, '51*), but at last report had shelved the proposal.

• Welding Flux: Mathieson Chemical has obtained a patent (U.S. 2,640,793) on the use of hydrazine in welding fluxes. In connection with McCord Corp. (Detroit), Mathieson has been investigating the use of hydrazine in fluxes for soldering aluminum. McCord received patents on hydrazine-based fluxes last fall (*CW, Nov. 29, '52*).

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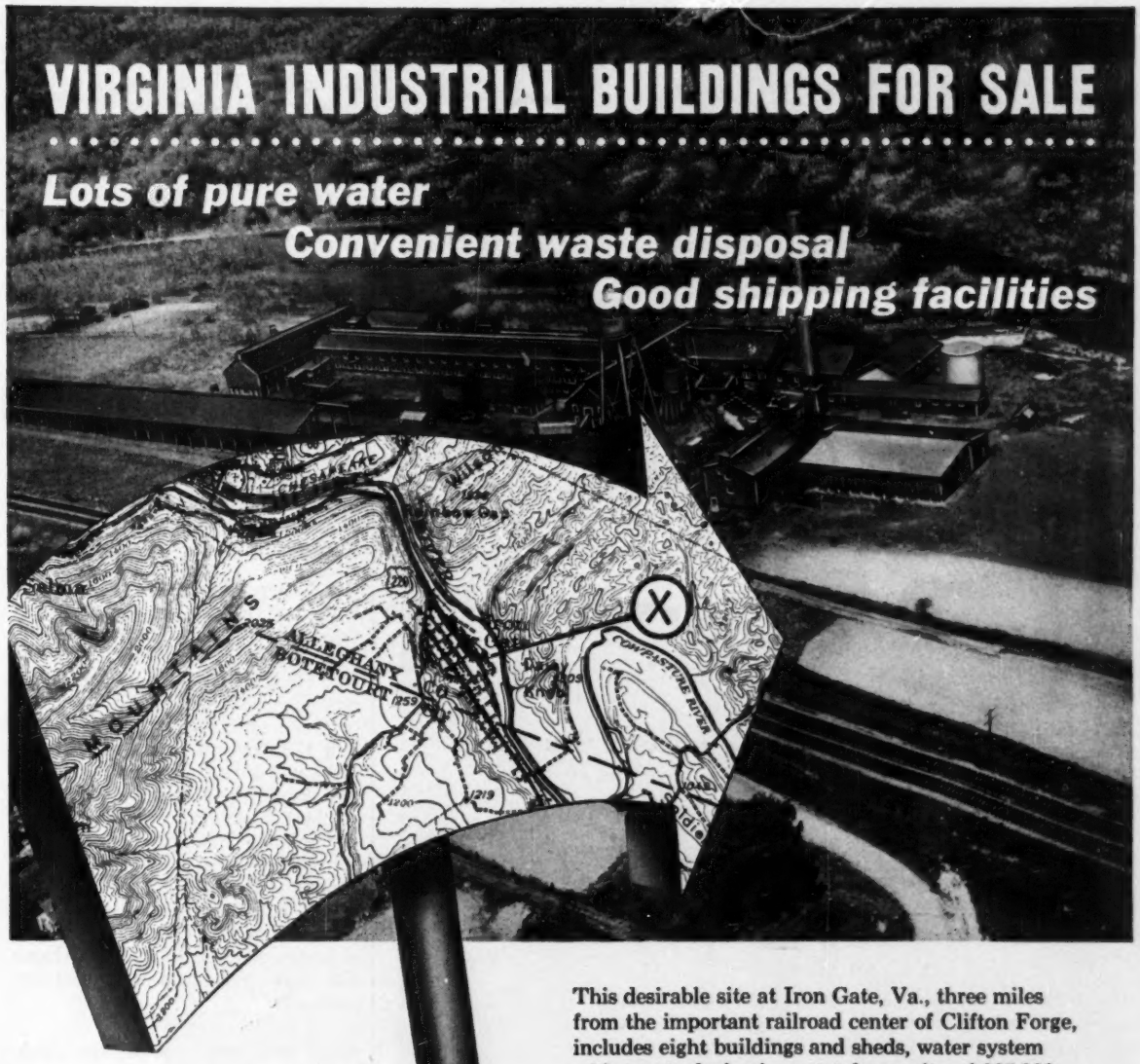
Good shipping facilities



This desirable site at Iron Gate, Va., three miles from the important railroad center of Clifton Forge, includes eight buildings and sheds, water system with two tanks having a total capacity of 225,000 gallons, sprinkler system and metal fence.

There's a fine spring on the property, rated at 2,500,000 gallons per day, and if you need more, a practically unlimited supply could be piped from a nearby mountain river.

Most of the 150 men who formerly worked here still live in town; other good workers available in Clifton Forge and surrounding country.

C & O tracks adjoin property and U. S. Highway 220 is only two blocks away.

For Pin-Point Surveys

giving detailed information on this and other available sites, write to the Chesapeake and Ohio Railway, Industrial Development Department, Cleveland 1, Ohio, Detroit, Michigan, or Huntington, W. Va.

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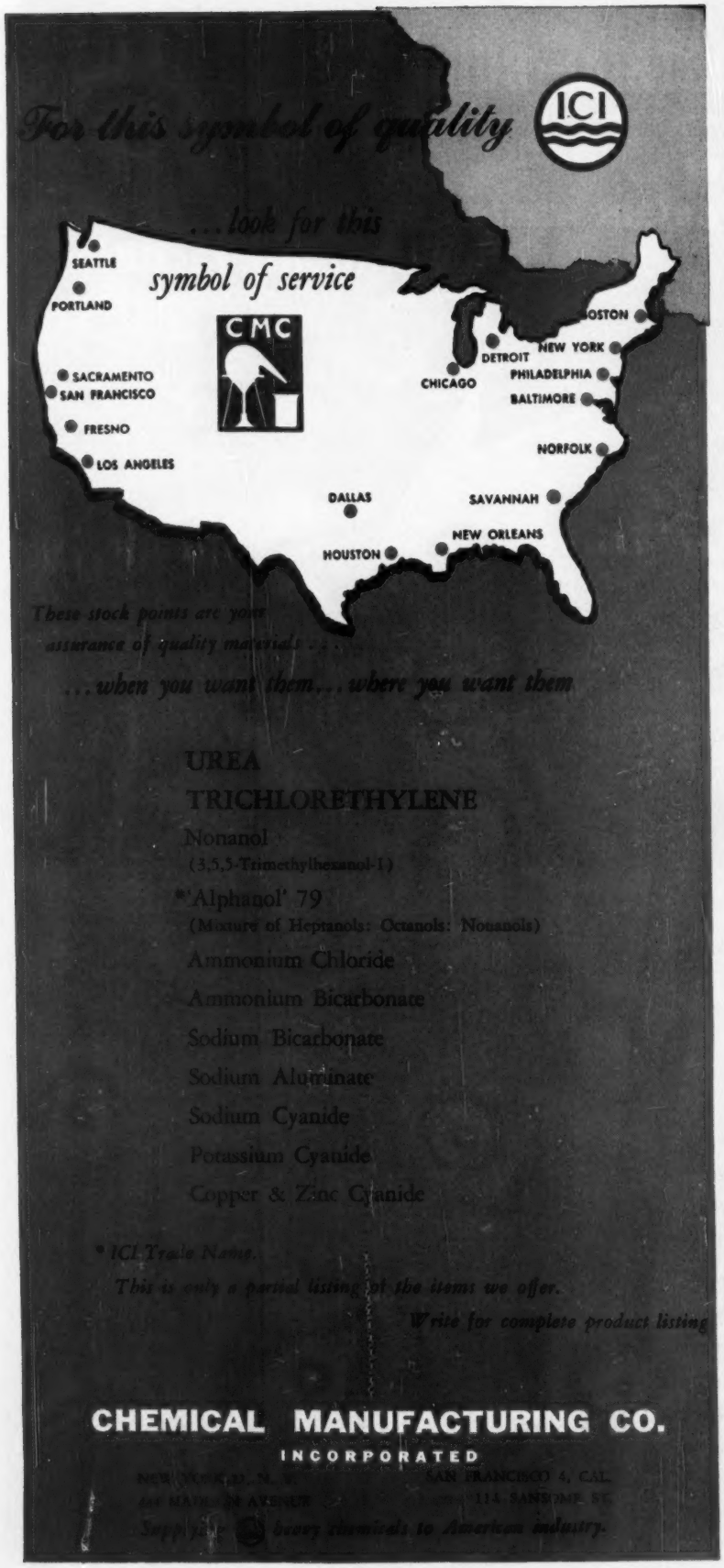


EQUIPMENT . . . .

Plastic Pipe: Taking recognition of the growing field for plastic equipment, Republic Steel Corp. has recently purchased Owens-Sharpe, Inc. Magnolia, Ark., producer of plastic pipe and tubing.

Says Republic President C. M. White, "Republic has entered the plastic field because plastic pipe and tubing has a very definite place in today's industrial picture." New uses and applications are currently being investigated in Republic's research laboratories.

• An earlier report, says Alpha Plastics, Inc. (West Orange, N.J.), gave the impression that the company is a producer of polyvinyl chloride. The firm, of course, is a fabricator of corrosion-resistant pipes and fittings made from the rigid polyvinyl.

•

For Faster Filters: New synthetic fibers may be the answer to many filtering problems, says Filtration Fabrics Division of Filtration Engineers, Inc. (Newark, N.J.), but they sometimes create new problems too. One of them: filter fabrics are so smooth that the raw cut edges will unravel quickly and have to be sewn together. The firm, which manufactures Feon synthetic fiber filters, came up with a new solution. It has developed a method that cuts the cloth and simultaneously seals the edges. Net result, it claims, is lowered cost. It also claims the new method permits the sealing of raw edges of holes and odd shapes that can't be hemmed or stitched economically.

•

Level Detective: Fenwal Inc. (Ashland, Mass.) is introducing a new instrument to sense and respond to changes or stops in the flow of air. Dubbed the Detect-A-Flo, the instrument was developed for aircraft heaters to prevent them from overheating should their intakes become clogged. But Fenwal also envisions its use in the plant as: a liquid-level detector or controller in storage and supply tanks; a warning device in air-cooled equipment; a ventilation control.

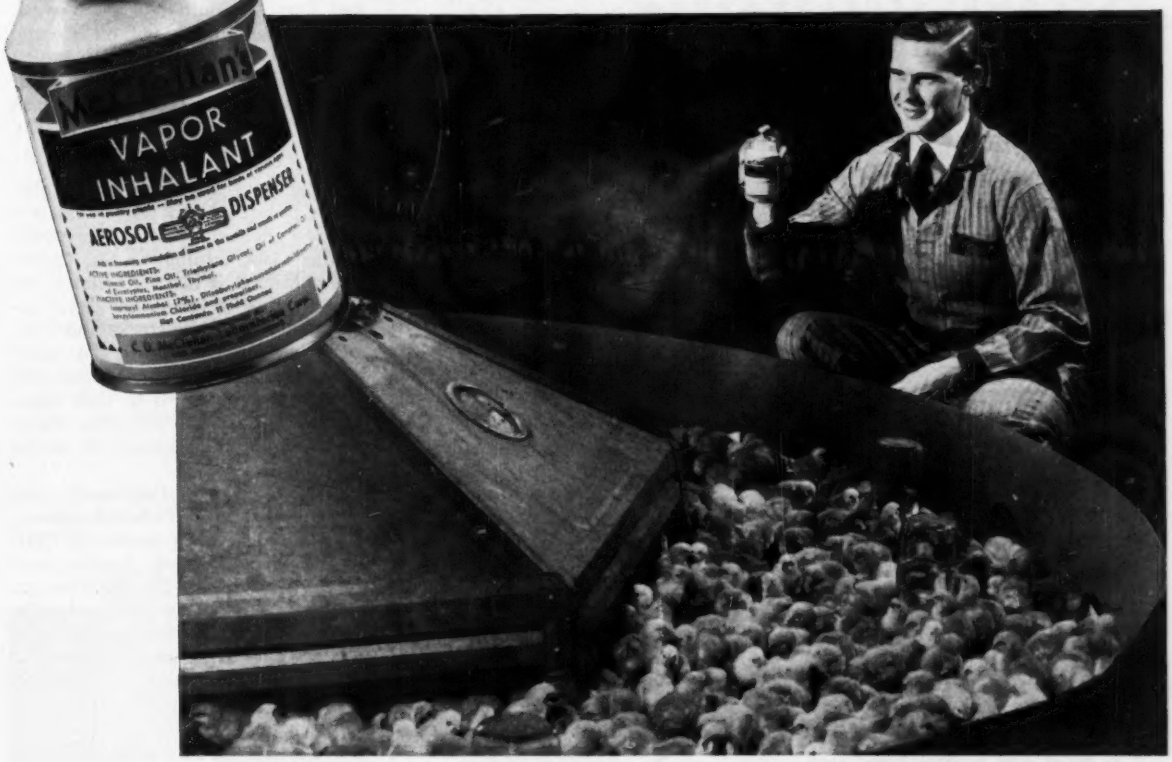
Fenwal's instrument works on the principle that the amount of heat conducted away from a constant heat source varies with the rate of flow of air moving past that surface. Features of the instruments, as Fenwal sees it, are: ability to respond to any mass rate of flow in the range of 1,000-50,000 lb./hr./sq. ft.; ease of installation and maintenance; no moving parts; immunity to vibration.

•

Going Up: The chemical process industry can expect to feel the impact

SPRA-TAINER Does It Again!

POULTRY SPRAY
KEEPS **SLICK CHICKS**
FROM BEING **SICK CHICKS**



The C. U. McClellan Laboratories Corp. of Los Angeles, Cal., is one of the nation's largest suppliers of pharmaceutical products to the poultry industry. McClellan's VAPOR INHALANT is a medicinal aerosol spray that's pressure packed in Crown's 12 oz. SPRA-TAINER for use in poultry plants to treat or guard against colds among birds of various ages. SPRA-TAINER offers the utmost convenience in spraying, and gives better dispersion than is possible by other methods.

New uses keep appearing for SPRA-TAINER, the world's original and leading propulsion can. Exclusive "Modern Design" and "No Top Seam, No Side Seam" construction make it the preferred package for pressure products.

The same Spirit of Progress which led to the invention of SPRA-TAINER guides the design and manufacture of all Crown Cans.

Whatever your need for cans may be, let a Crown Sales Representative direct you to Creative Packaging that sells your product.

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PHILADELPHIA
Division of
CROWN CORK & SEAL COMPANY

One of America's Largest Can Manufacturers • *Philadelphia, Chicago, Orlando, Baltimore, New York, Boston, St. Louis*

PREVENT CORROSION OF METALS

Zinc — Cadmium — Copper — Brass — Steel

ENTHOX — Chromating process for zinc and cadmium. Very easy to use and economical. Stops corrosion in damp atmospheres and in salt fog. If you have trouble meeting salt spray specifications on zinc and cadmium use Enthox.

EBONOL "C" — An alkaline chemical process for producing black oxide coatings on copper and its alloys. Coating is durable, corrosion resisting, jet black. Meets all government specifications for oxide coatings on copper base alloys.

COMPOUND NR-31 — A mildly alkaline rust-inhibiting material. Used in concentration of 1 - 2 oz/gal. in water to prevent rusting during indoor storage or during drying of water films. Imparts corrosion resistance for storage. Leaves a thin film that is easily removed by a water rinse.

COMPOUND NR-37 — An organic material added to cold or hot water to prevent rusting of steel, cast iron and ***porous*** iron including powdered iron parts during storage or during drying of the water film. Leaves no residue after the water has evaporated.

COMPOUND 39 — Compound for performing light cleaning and iron phosphating in one operation. Phosphate coatings are thin and highly adherent. Particularly suitable as bases when high adhesion of paint and enamel is required.

COMPOUND NR-40 — A neutral compound added to water to promote cleaning and to prevent rusting of steel. Excellent for interprocess cleaning and protection. Material is easily removed by a water rinse.

RUSTPROOFING OIL NO. 15 — A thin-film, water shedding, rustproofing oil. Highly protective in salt spray and humidity.

RUSTPROOFING SOLUBLE OIL — A special water-soluble oil to produce corrosion resisting oil films on metal. Also an excellent water soluble cutting oil.

Literature Gladly Sent On Request
Describing Each Product In Detail

METAL FINISHING PROCESSES

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442 ELM STREET
NEW HAVEN, CONNECTICUT

ELECTROPLATING CHEMICALS

PRODUCTION . . . . . eventually of the new mill prices for pig iron which United States Steel and its general operating divisions—American Steel and Wire, Columbia-Geneva, and National Tube—put into effect last week. The new prices amount to an increase of roughly 3%. The grades and increases per gross ton: Basic $56.00; Bessemer, $57.00; No. 2 Foundry, $56.50; Malleable, $56.50; Intermediate Low Phosphorus, $61.00.

•

And Up: Also into effect last week went higher price tags on electric resistance-welded mechanical tubing made from both hot-rolled and cold-rolled strip by the Tubular Products Div. of The Babcock & Wilcox Co.

•

News on Moves: A new dealer plan for its industrial fork lift trucks was put into effect the first of this month by the Clark Equipment Co. (Battle Creek, Mich.). It has inaugurated the plan in order to handle its newly acquired Ross straddle trucks and fork-truck lines. In most cases, the present dealers for Clark equipment will add the Ross products to their regular sales and service activities. States affected are in the Midwest and on the West Coast.

• On the first of this month, too, two subsidiaries of Parker Appliance Co. (Cleveland)—the Synthetic Rubber Products Co. (Los Angeles) and the Rubber Products Div.—will merge. From now on, the Los Angeles facility will be simply the Rubber Products Div., Parker Appliance. There will be no change of function for the two organizations.

•

Safety First: Its Old Hickory rayon plant is now the safest industrial plant in the world, says Du Pont. The company bases its claim on the fact that the plant has operated four years without a time-losing injury, making the second time in its 27-year history that the plant set a safety record. The first record was chalked up in 1937 when the plant completed 11 million exposure-hours without a major injury. That streak started in 1935.

The new record puts the plant at 28,160,000 man-hours worked without a lost-time injury. To celebrate the achievement, the company had a ceremony at which F. Murray Acker told the 3,500 employees that in the 1,463 days the plant had been operating safely, the plant avoided 306 injuries. Said he: "Our records show that 306 major injuries would have been caused if the plant had made no improvement in the accident prevention program of the early years of operation."

TAKE TRACE METALS OUT OF ACTION!

● Now you can take troublesome traces of iron, aluminum, copper and other metals out of action easily and effectively. The answer to metallic contaminants picked up from pipes and processing equipment is the use of a Pfizer sequestering agent . . . Gluconic Acid, Citric Acid or one of their derivatives.*

Pfizer Citrates and Gluconates are recommended as sequestering agents in:

The textile industry . . . to inactivate trace metals in dyeing, bleaching, kier boiling and mercerizing.

The leather industry . . . to adjust tanning solutions to the proper pH without precipitation.

Oil and fat industry . . . to inactivate trace metals which lead to rancidity.

Weed killer formulations . . . to prevent formation of insoluble, inactive salts in hard water areas.

Municipal and industrial water systems . . . to prevent the precipitation of metallic contaminants.

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*Sodium Citrate, Sodium Gluconate, Ammonium Gluconate

Pfizer Sequestering Agents

PUT "IN"	SEQUESTER "OUT"		pH
CITRIC ACID Sequestering action of 100 parts of acid	Iron (Ferric)	19 Parts	7
	Aluminum	19 Parts	7
	Copper	26 Parts	7
	Zinc	44 Parts	7
	Cobalt	95 Parts	10
GLUCONIC ACID Sequestering action of 100 parts of acid	Iron (Ferric)	24 Parts	7
	Aluminum	4 Parts	7
	Copper	26 Parts	7
	Zinc	27 Parts	7
	Cobalt	6 Parts	10

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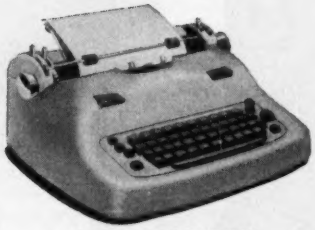

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Natural — BICHROMATES — CHROMIUM PRODUCTS

NATURAL PRODUCTS REFINING CO. • JERSEY CITY 5, N. J.

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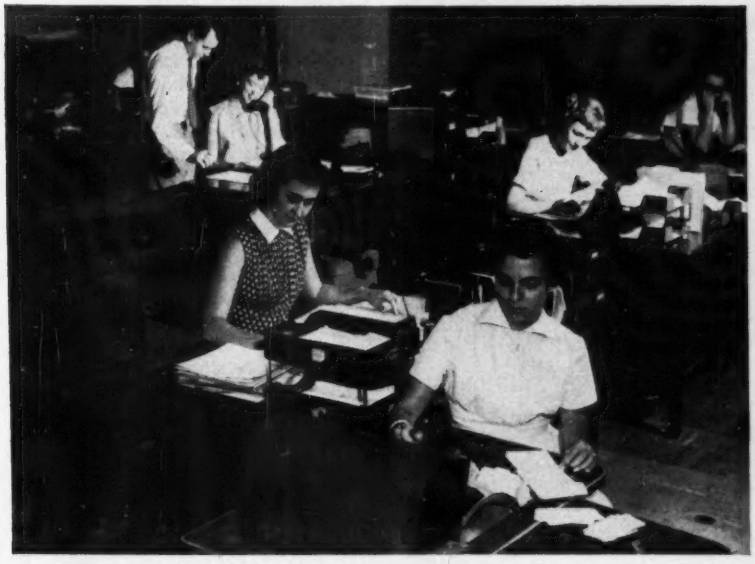
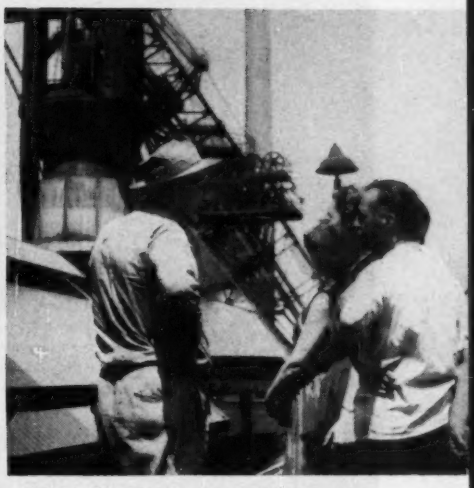


IN THE OFFICE: Desk-bound sales correspondents can be a weak selling link. Monsanto's Gil Buhrman applies preventive medicine with . . .



PLANT VISITS: Here at Granite City Steel Co., correspondents learn . . .

Elementary Course for Sales

Monsanto's heavy-chemical sales manager, Gil Buhrman, uses a direct approach on an old selling problem:

Sales correspondents, male and female, are a company's predominant contact with customers, yet they are usually the least trained of all sales personnel.

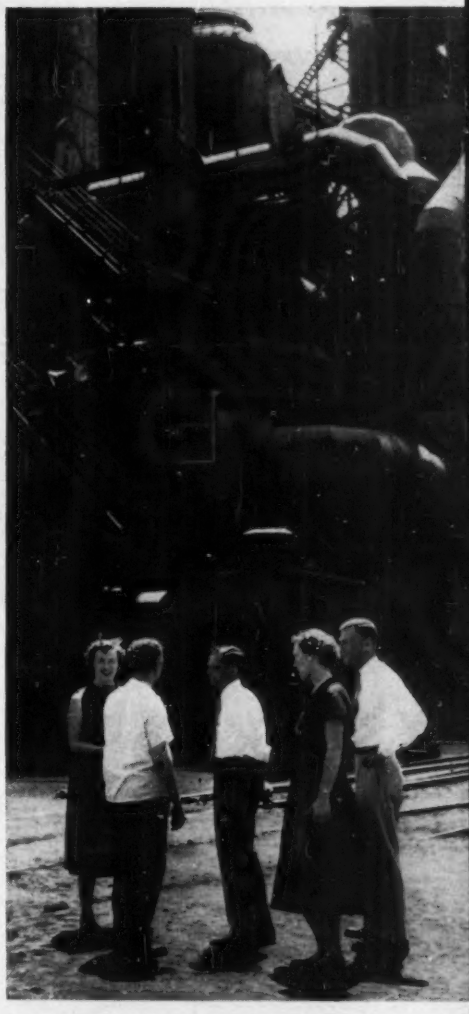
Buhrman's solution: a few days off from the 'phones and typewriters for "outings" to customers' plants.

Within the next few days, the switching yards at St. Louis, Mo., will witness an unusual sight: out from Monsanto's plant will come a normal string of freight cars—plus one flat car loaded with a handful of young men and women, sales correspondents attached to the heavy-chemicals section of Monsanto's Organic Chemicals Div.

For the correspondents themselves, there will be nothing unusual about the occurrence. It will be just one more phase of a continuing educational program being conducted for them by their product sales manager, Gil Buhrman. During the day they will have watched the filling and weighing of tank cars, the preparation of bills of lading, and finally the making up of the freight train itself. Then, riding on their flat car, they will follow the train as it works its way through the St. Louis switchyards to a customer's siding.

In the months to come, Buhrman hopes, this experience will result in better service for his section's customers. By temporarily taking the office-bound portion of his sales force away from their telephones and typewriters, Buhrman is concocting a prescription for one sales ailment that is common to nearly all industrial selling situations: highly trained salesmen make periodical visits to customers' plants, but the day-to-day contact (essential to repeat sales) is usually relegated to an untrained force of order-takers and expediters.

Acid Use: To keep his group from falling into this trap, Buhrman has organized a series of plant visits for the four girls and two men who—heretofore—have been talking only in abstract terms about the muriatic, sulfuric, nitric, chlorine and sulfur dioxide products they handle. At Armour Fertilizer's plant in East St. Louis, Ill., for instance, sales correspondent Rita Byrne (sulfuric acid in tank-car quantities) met the "telephone voices" with whom she had been dealing, watched



. . . how sulfuric and muriatic acids fit into steel-making processes.

PROCESS TIPS: Margie Walezak, chlorine correspondent, listens closely as St. Louis water-works engineer explains a part of the process.

FINISHED PRODUCT: Rita Byrne, standing next to Buhrman on the left, arranged for the sulfuric shipments from which this Armour superphosphate was made.

how the acid shipments she had been scheduling fit into Armour's superphosphate production programs.

Similarly, Margie Walezak (chlorine) has a better grasp on her job as the result of an office visit by all of the correspondents to the Howard Bend plant of the St. Louis water department. The same is true for Paul Waldvogel (muriatic acid) after a trip to the Granite City Steel Co.

One result of the plan has been that customers are now learning to contact the sales correspondents by name. "They're working me out of a job," says Buhrman happily. "From our point of view, this kind of first-hand relationship eliminates the chances of misunderstanding that might result from a more indirect procedure . . .

"The sales correspondents are able to handle the customer's requirements much more capably if they are acquainted with his storage and handling facilities and his use for the product. With that knowledge, the correspondent is able to select the proper size and type of car to fill the customer's order, as well as the most efficient routing schedule."

Three For One

Approaching retirement this fall, David Walker, vice-president of Warner-Hudnut, who has been in charge of W-H's overseas operations for the last 25 years, is being given a special sort of commendation: his company has appointed three top-flight export sales managers to take his place.

The move comes, says Warner-Hudnut President Elmer Bobst, as a direct result of the firm's expanded foreign business, which exceeded $27 million last year (*CW Newsletter, June 27*).

To simplify these operations—involving activities in over 100 countries—Bobst has divided the world into three geographical divisions. Frank Cleary, former manager of Canadian operations, is the new director of British Commonwealth and Far Eastern operations; Robert Gleckner, former manager in Mexico, is director of Latin American operations; and Paul van der Stricht (recently of Heyden Chemical) becomes director of European operations.

•

Additional Changes: Other recent shifts in distribution channels:

• The Lederle Laboratories Div. of American Cyanamid has opened a new branch office in Portland, Ore., to serve as sales headquarters for the Pacific Northwest.

• Wilson & Geo. Meyer & Co., Intermountain, is the name of a new company formed by the principals of Wilson & Geo. Meyer (San Francisco). The new firm will distribute phosphatic fertilizer products for the new $5-million plant being erected by Western Phosphates at Garfield, Utah. The plant is scheduled for completion early next year with an initial output of more than 60,000 tons/year of triple superphosphate, ammonium phosphate and phosphoric acid.

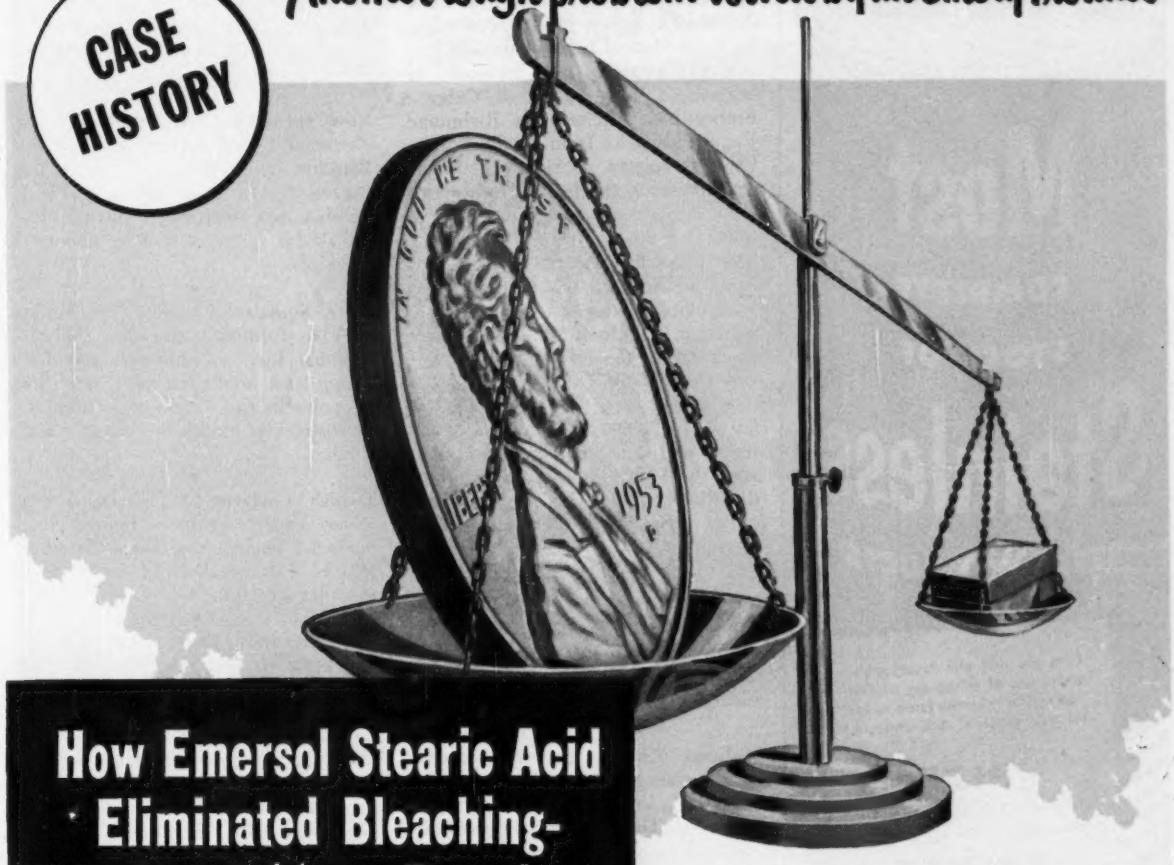
The parent company of Wilson & Geo. Meyer & Co. is a 102-year-old West Coast distributive firm with offices and warehouses in San Francisco, Los Angeles, Fresno, Portland, and Seattle. Western Phosphates, Inc., in turn, is jointly owned by American Smelting and Refining, Kennecott Copper, and Stauffer Chemical.

• Geigy Co. has purchased a two-acre industrial site in Toronto, Ont., for a new distribution headquarters in that area. The 23,000-sq.-ft. structure will house blending, warehousing, and testing facilities.

• Esso Standard Oil Co. will relocate its Pennsylvania Div. headquarters in a $1-million two-story of-

CASE HISTORY

Another tough problem solved by an Emery Product



How Emersol Stearic Acid Eliminated Bleaching-Saved ½¢ a Pound

By using Emersol 132 Lily Stearic Acid in place of an ordinary triple-pressed type, this manufacturer of *esters* was able to attain the desired color of his product *without bleaching* and without spending extra money, because Emersol Stearic Acids cost no more than ordinary grades.

In this actual case, the exceptional *color-stability* of Emersol 132 resisted the darkening that normally occurred during high-temperature esterification. Not only was the cost of bleaching eliminated (labor and materials), but the yield of finished product increased by the amount normally trapped in the discarded filter cake.

The outstanding stability of Emersol Stearic Acids can mean as much to you. Even where color is not of primary importance, their superior resistance to rancidity and to oxidation are extra benefits that make any product *more salable.* Since they cost no more than ordinary grades, it will *pay you* to use Emersol Stearic Acids—available in all grades to suit your specific need. Next time...everytime...buy Emersol Stearic Acids.

IF YOU USE A DOUBLE PRESSED GRADE...

Here's one of many reasons why Emersol 120 Standard Stearic Acid is preferred over competitive double-pressed grades. These colors of *glyceryl monostearates* clearly show the value of the outstanding *color stability* of Emersol 120. The monostearates were esterified for 5 hours at 250° C, under a CO_2 blanket, with no bleaching or refining.

Glyceryl Monostearate made from	*Lovibond Color (5¼" Cell)*
Emersol 120 Standard Stearic	6Y/2.7R
Competitive Double Pressed "A"	9Y/4R
Competitive Double Pressed "B"	28Y/8.5R

Write Dept. I-7 for full information on all Emersol Stearic Acids.

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fice building being erected near Philadelphia (in Lower Merion Township) by Penn Mutual Life Insurance Co.

• In another built-for-lease arrangement, Boston's Cabot, Cabot & Forbes has purchased a Richmond, Va., building lot from Du Pont. After CCF completes a brick-and-concrete warehouse on the land, Du Pont will lease it back for cellophane raw material and finished product storage.

• The Chemical Div. of Celanese Corp. of America has opened a new sales office in Cleveland. District sales manager is Richard Schwab, formerly in charge of the Detroit office, which was closed July 1.

• The John B. Moore Corp. (Nutley, N.J.) has established warehouse stocks of specialized solvents at Kansas City, Mo. This is the fourth such distribution point in Moore's chain; others are at Boston, Pittsburgh, Detroit.

•

New Addresses: Two New York firms have recently moved their offices. Conray Products is now at 200 West 34th St.; American Alcolac at 350 Fifth Ave.

•

Midwest Export: The first regular cargo-passenger service between Chicago and Venezuela has now been instituted. The Ahlmann Trans-Caribbean Line will use the new *Colonia*, a German-built motorship, in making the run through the Great Lakes and St. Lawrence River.

•

New Terminal: The Delaware River Terminal Corp., a subsidiary of the Petroleum Marketing Corp., has started the construction of a Philadelphia-area deep-water storage terminal for petroleum and chemical products.

•

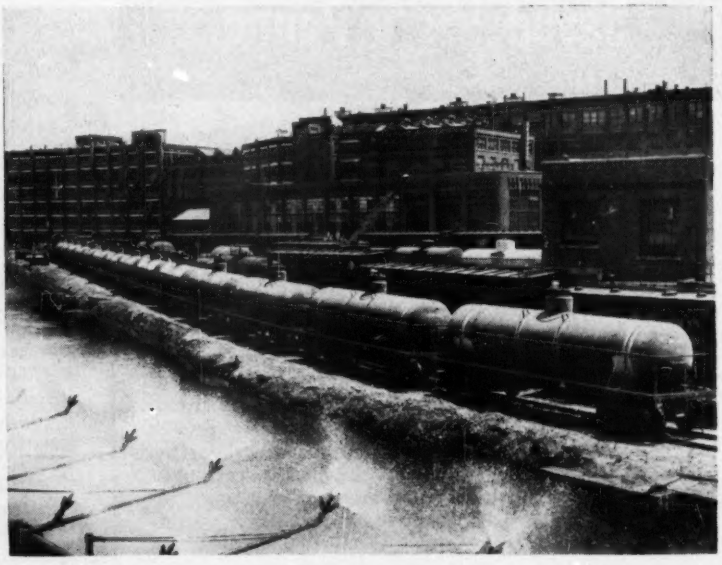
More Squeeze: Chicago's W. Braun Co. has formed a subsidiary, Plasticrafters, Inc., to supervise manufacturing and marketing of a new line of polyethylene "squeeze bottles" to be distributed under the Braun trademark.

•

Danish Lactates: J. M. Baird Co. (New York) has been named U.S. agent for Danish firm, Koge Chemical Works, Ltd., makers of lactic acid, metallic lactates.

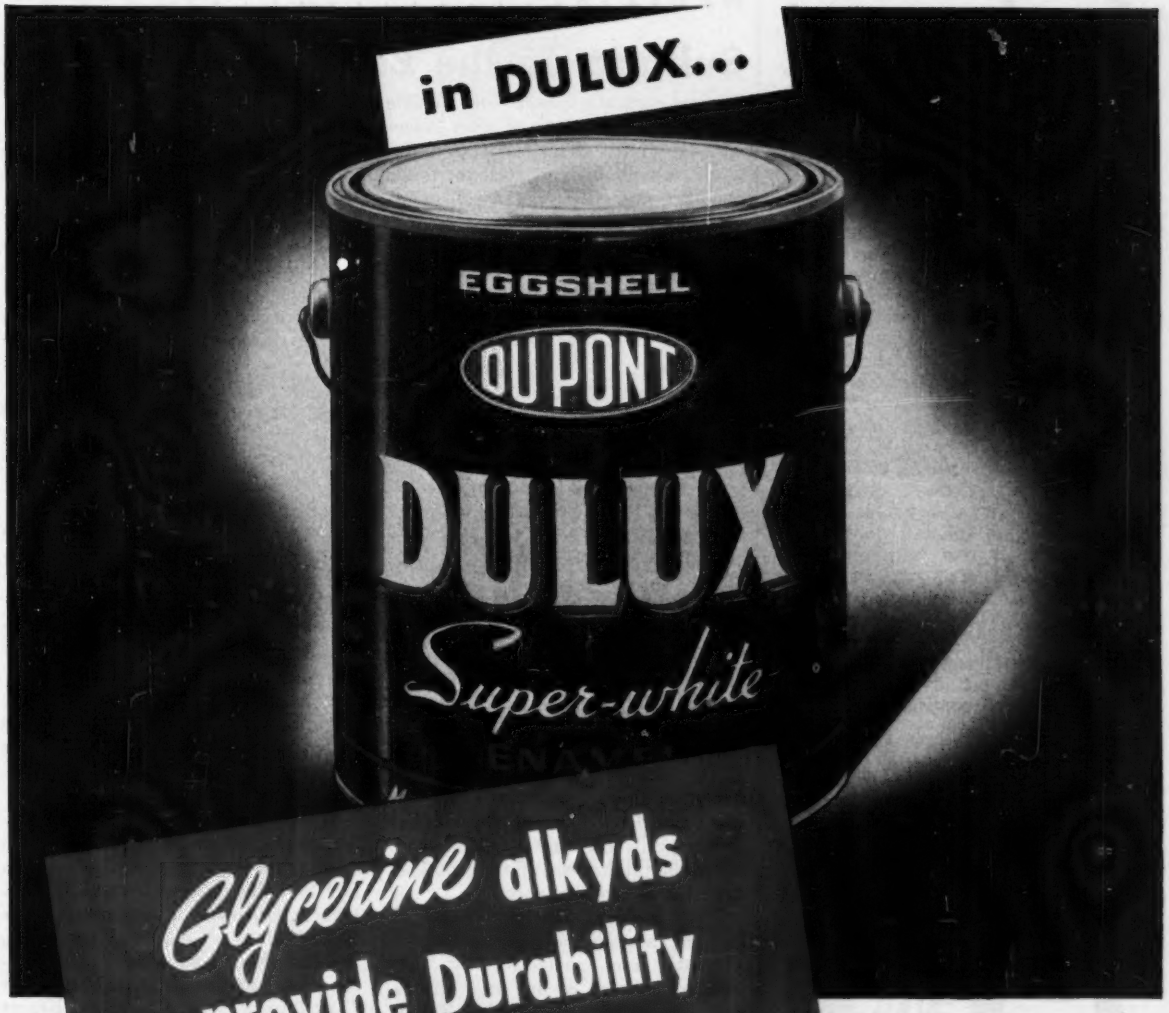
•

Dynamite Hike: The continuing struggle between shipping interests and the Coast Guard over proper regulations covering the unloading of dynamite at Honolulu has resulted in a doubled ocean freight rate for the commodity. The Matson Navigation Co. has upped its charge from $37.50/ton to $75/ton.



Lined Up For Lining

A FIFTH of a mile of muriatic tank cars wait their turn at the Akron, O., plant of the B. F. Goodrich Co. They are part of a 20-car group that Goodrich plans to line with a hydrochloric-resistant rubber compound—and they represent one of the largest single tank car lining orders received by the rubber company.



The DuPont Company pioneered the development of alkyd resin finishes during the twenties, and for many years has used Glycerine alkyds in its popular "Dulux" finishes to provide gloss and color retention, durability, and relatively fast dry. Dulux's unusual combination of properties makes it a favorite in applications ranging from house shutter and trim paints to automotive finishes... from refrigerator and appliance coatings to marine paints.

When alkyd resins were first introduced, they virtually revolutionized the paint industry. E. I. duPont de Nemours & Company has used Glycerine alkyds since the twenties to formulate many of its famous finishes for the industrial, automotive, and trade sales fields.

Glycerine-derived alkyds improve color retention and film toughness in air-drying coatings for metal equipment. They contribute flexibility and adhesion to baking finishes—where their compatibility with other resins like ureas and melamines is essential.

America's leading paint makers have also found Glycerine easier to work with in the critical resin-making operation. For light-colored alkyds, Glycerine is available to meet the exacting standards of the color-conscious paint industry.

"Why Glycerine for Alkyd Resins and Ester Gums?" tells the story of these applications with detailed information on the chemical and physical properties of Glycerine. For your copy, write Glycerine Producers' Association, 295 Madison Ave., New York 17, N. Y.

Nothing takes the place of Glycerine

Can low-cost fatty alcohols be pure? Sure!

The same people who make the world's purest oleyl alcohol (CACHALOT *0-4) also produce low cost technical grades of fatty alcohols.* You can be sure of the lot-to-lot uniformity of any CACHALOT brand fatty alcohol you specify. Over twenty years of original research in the production of cetyl, oleyl, and stearyl alcohols makes this possible. Now, lower cost means greater opportunities to put CACHALOT fatty alcohols to work in your process. For example, you can use them as intermediates in chemical synthesis: brominates, chlorinates, condensates, esters, aldehydes, mercaptans, nitrites, sulfates, phosphates. For a booklet that tells you new ways to use CACHALOT, write M. Michel and Company, Inc., 90 Broad Street, New York 4, N. Y. Or phone DIgby 4-3878. Their trade name for the largest variety of fatty alcohols commercially available in tonnage lots of controlled purity is

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Sulfuric on the Escalator

Higher contract prices for sulfuric acid—as well as a host of other chemicals—go into effect generally this week throughout most sections of the country. And while most consumers are showing little reluctance to shelling out the added $3 to $5 a ton now, not a few trade observers are pondering this poser: Does this presage the end of the good old days of sulfuric acid at rock-bottom prices?

The answer to the question entails tracing the acid's tap roots back to the tree—sulfur, for nearly 80% of the sulfur used in the U. S. is burned to make acid.

The recent world shortage of available sulfur had acid makers and consumers alike batting up against a surprising—and critical—sulfuric market condition. Surprising because the acid has come to be accepted by most consumers in the same way that diners accept salt in a steak house—everyone expects it to be always readily available.

The seriousness of the situation at the time is pointed up by this fact: about 79% of the virgin acid produced in the U. S. three years ago was made from low-cost virgin sulfur (brimstone), and the dearth of it resulted in production of only 85% of the nation's requirements.

That problem has now been alleviated through the increased use of alternate raw materials by acid makers, as well as by an improvement in brimstone supply. Today, sulfur for acid production is being obtained from sulfide ores (pyrites, pyrrhotite), from recovered spent acid, smelter gases, petroleum sources and many others. For instance, General Chemical, which last month disclosed plans to build its twentieth acid plant (this one at Painesville, O.), presently uses some 32 sources of sulfur for its sulfuric production.

But makers' costs skyrocket whenever a switch is made from brimstone to these alternate raw materials.* And that points to the possibility that eventual elimination of cheap, close to a penny-a-pound acid may not be too far off—particularly if acid makers must lean more heavily on the substitute materials. Add to this the irritant of ever-rising costs for labor, construction, acid transportation rates, etc., and it becomes understandable why aggravated producers point out the necessity for a re-evaluation of the acid price picture.

Experts, who see the industry entering an acid-from-alternate-sources era, underscore their predictions with these observations:

- Although new Frasch sulfur deposits are being developed, supply will be tempered by the doubtless depletion of some of the deposits now being mined.

- Burgeoning industrial demands for sulfuric can be expected to increase sulfur requirements to greater tonnages than will probably become available.

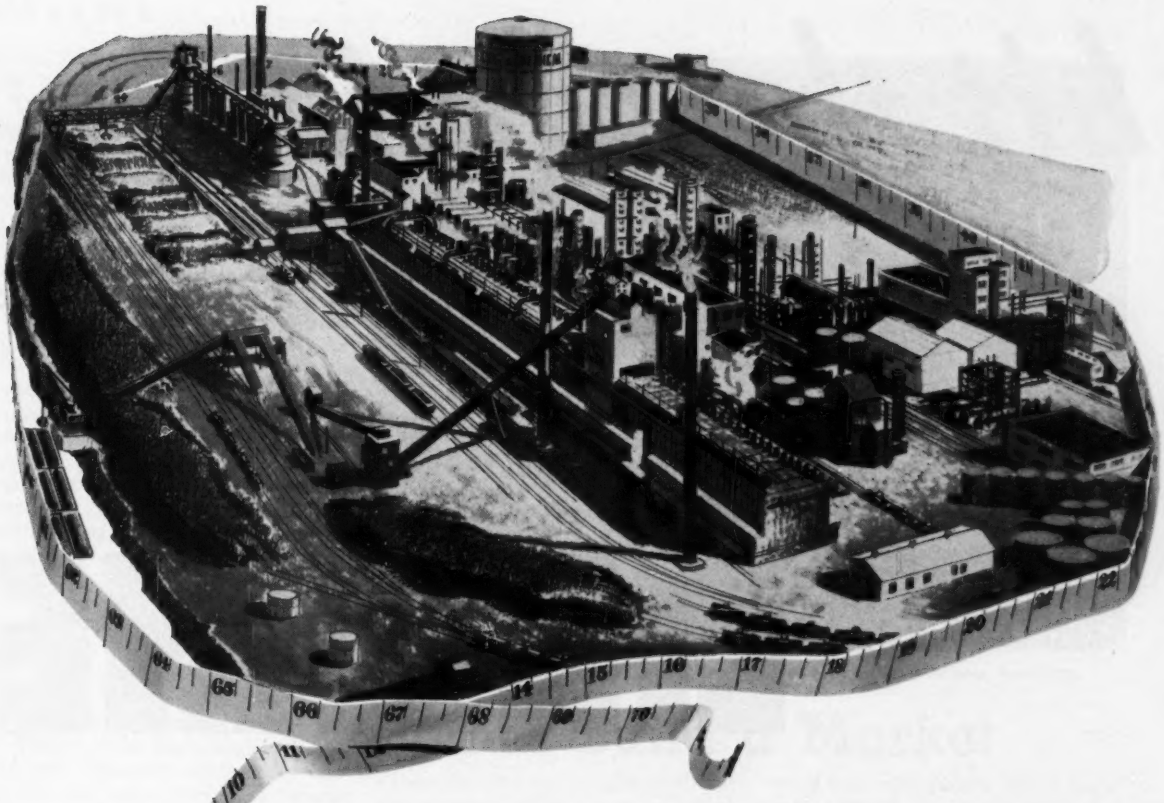
It's true, of course, that some sulfur producers are being faced with small-mine depletions, and it's also a fact that this year, at least, will see a hike in native sulfur output. Texas Gulf (the country's No. 1 producer), has just about completed its 200,000-ton-a-year expansion at its Moss Bluff (Tex.) plant. And the second largest producer, Freeport, has already stepped up its Grande Ecaille (La.) mine production by some 100,000 tons. The same company's new Garden Island Bay (La.) facilities will start producing early next year, may add

* See CW's exclusive interview with Midwest Research Institute's Wessel and Holmes on costs of making sulfuric acid from various sulfur sources (*CW, Sept. 6, '52*).

Sulfuric Acid End Uses

(Thousands of short tons)

	1950	1958 (Est.)
Fertilizers	3,950	5,500
Chemicals	2,700	3,400
Petroleum refining	1,500	1,870
Paints and pigments	985	1,150
Rayon and film	765	1,000
Iron and steel	620	990
Coal products	615	975
Nonferrous metallurgy	350	510
Industrial explosives	130	170
Textiles	85	180
Misc. (includes detergents, etc.)	390	700
Totals	12,090	16,445



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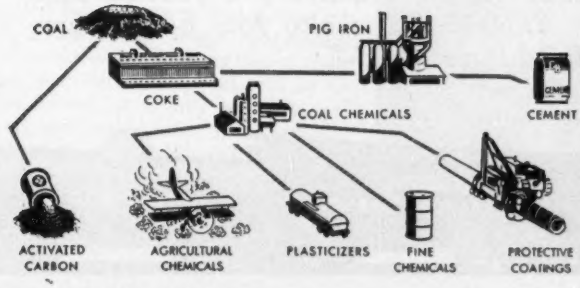

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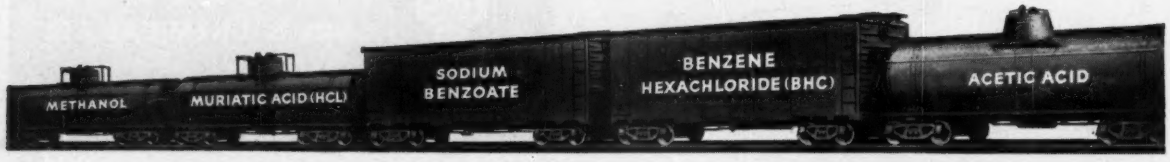


about 500,000 tons to the country's total capacity.

Other major producers, too, (including Jefferson Lake, Duval, Gulf Sulfur Corp.), aware of an impending shortage of Frasch deposits, are also constantly on the lookout for new domes.

Sulfuric Gulpers: A look-see at some past and present sulfuric acid production and consumption figures clearly indicates a broadening horizon of future needs. About the time of Pearl Harbor, 100%-acid production hovered in the 5-6 million tons/year range. By 1946, production from all sources was crowding 9 million. A scant four years later, the output curve had soared to over 12 million tons/year. And now a considered industry estimate sees U. S. requirements hitting some 13 million tons this year.

Chances are that within the next three to four years that figure, too, may jump another 20% (although that increase may be preceded by a slight dip in the next year or two).

For example, consumption of sulfuric acid in the manufacture of agricultural fertilizer – historically the prime user–may increase as farmers strive to produce more from reduced acreage.

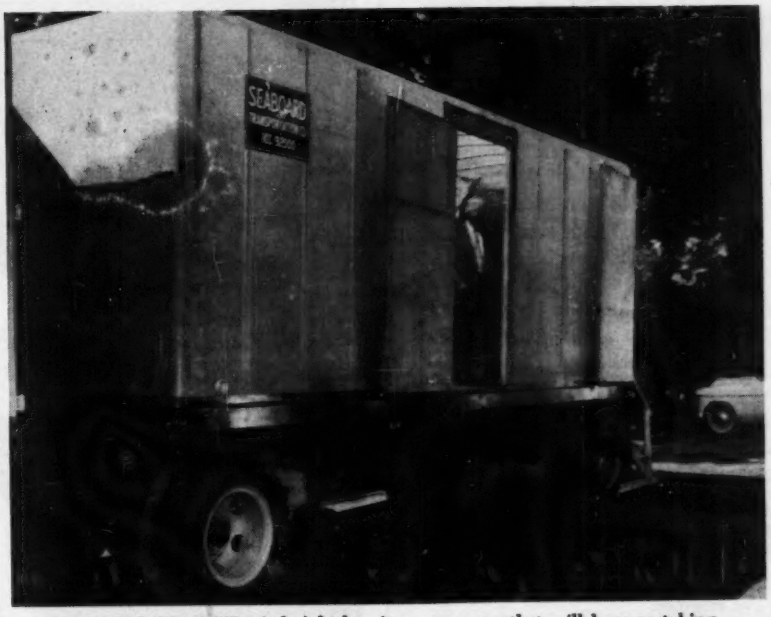
More and more sulfuric will be needed, directly and indirectly, for the manufacture of the raft of man-made fibers now in production or developing in the nation's laboratories.

Synthetic detergents, a relatively recent sulfuric siphoner, is expected to take greater amounts. An indication of the phenomenal growth: the detergent business climbed from 15% (of the soap and detergent market) in 1948 to about 45% last year. And there's a good possibility that output will nearly double again in the foreseeable future. Acid needs will swell accordingly.

The chemical industry itself, growing rapidly and now consuming more than 3 million tons of sulfuric a year, will certainly continue to crowd fertilizers for top honors as an acid outlet (*see table, p. 62*).

Prices: One maker says acid tags have always been so low, and so accepted by consumers, that a new set of "ground rules" might conceivably be overlooked. Yet, in the face of facts (as they are today, and will be in the future), it is only logical to expect that acid prices will gradually adjust to a more equitable basis in keeping with similar changes among other basic commodities.

Whether he's right or wrong, his viewpoint can't be discounted.



PLASTIC TRAILER: A freight-bearing newcomer that will bear watching.

Bodies Build a Market

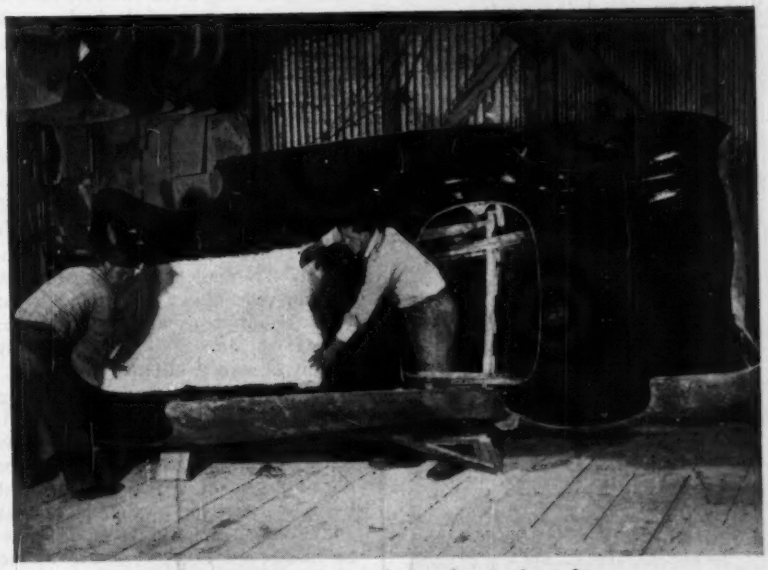
Chevrolet's first mass-produced fibrous glass sports car the "Corvette," rolled off the assembly line last week at Flint, Mich.

And any day now, a second major auto manufacturer, Kaiser-Frazer, is slating a production run of its plastic body model, the Kaiser-Darrin DKF-161.

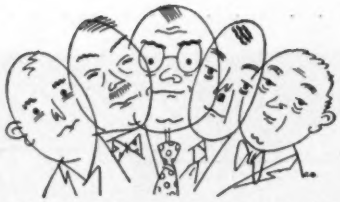
News like this of big resin-consuming operations is certain to set optimistic plastics makers to speculating about the fabulous market potentialities of reinforced-plastic bodies. However, granting the possibilities of a brilliant future, a close examination of the present status of this field shows up sharp inequalities among the specific uses.

Like all pioneering attempts, plastic body-making is now in a distinctly tentative, groping stage, with practicable applications advancing in unequal steps.

Big and Soon? Progress in reinforced polyester resin trailer bodies is



CAR BODY: Fast on the take-up, slow in the make-up.



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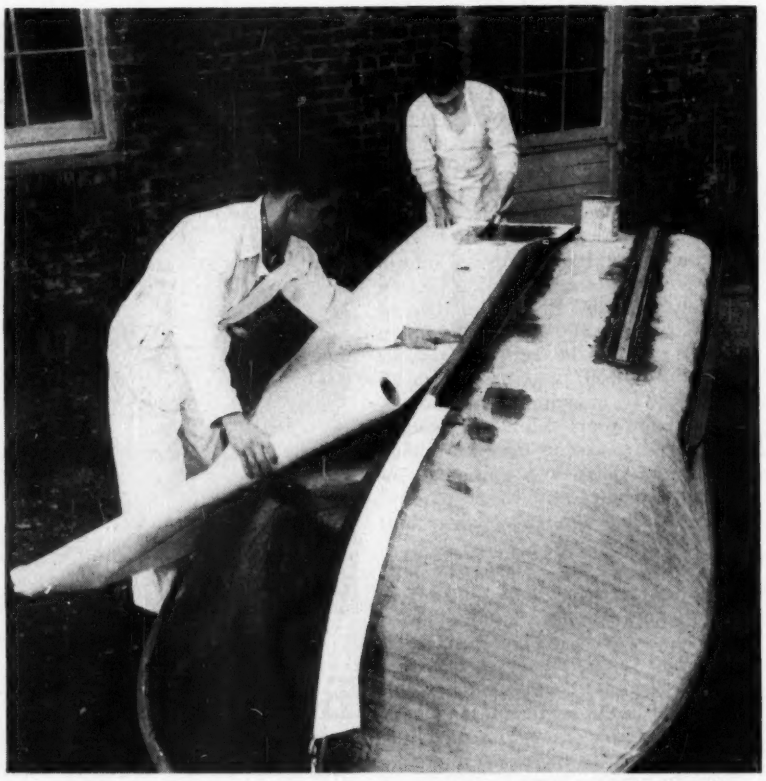

BOAT OVERLAY: A cheap durable covering, a "hot" market for it.

a case of a fast-paced market.

• Seaboard Transportation, out in California, is now road-testing two 24-ft. resin-glass fiber body trailers.

• In Philadelphia, Strick Co. is ready to demonstrate the advantages of its new 32-ft. plastic trailer.

What makes these moves particularly significant is the possibility of mass-producing them. Because the relatively simple lines of the body panels present few manufacturing difficulties, plastic trailer bodies could be a large-scale manufacturing reality long before plastic auto bodies take to the road in quantity.

Bigger, but Later: Even more so than either of the limited Chevrolet and Kaiser-Frazer operations, most plastic car bodies are on a strictly custom or semi-custom basis. Approximately 20 small companies are now offering plastic body kits to sports car fans. Using these kits, a sports car enthusiast can install a plastic body on any of several chassis.

It'll take a big jump of adapting plastics techniques to clear the standard family-car mass-production hurdle. According to Owens-Corning, a major glass fiber maker, the break-even point between metal and plastic bodies is at 15,000 units; below that figure, plastic bodies are cheaper; above it, the steel bodies hold sway.

A further step away from mass production methods is the "make-your-own" glass fiber boat movement, now in full swing on the West Coast.

About a year ago, Thalco Glass Fiber Products (Los Angeles) started selling "do-it-yourself" glass fiber-resin kits of reinforced overlay coatings for such uses as boat hulls. Thalco frankly admits they've enjoyed "tremendous success."

Another Pacific Coast firm, Glass-Fiber & Plastic Co., at Seattle, Wash., also sells kits, but gets its biggest volume through dealers—boat firms, marine stores outlets. Marvin E. Carr, head of G-F&P, estimates that although the small-boat business in fibrous glass-resins has now reached peak volume, locally, that particular market will maintain its present volume.

But other marine applications, likewise on a strictly non-mass-production basis, are potentially big markets for reinforced plastics, according to Carr.

In All Directions: That reinforced plastic bodies are "here to stay" is a typical industry assumption. But just which of today's "do-it-yourself" jobs will mushroom into tomorrow's big-time mass-production consumer is not so obvious. Even the Argus-eyed resin and glass fiber makers will admit that.

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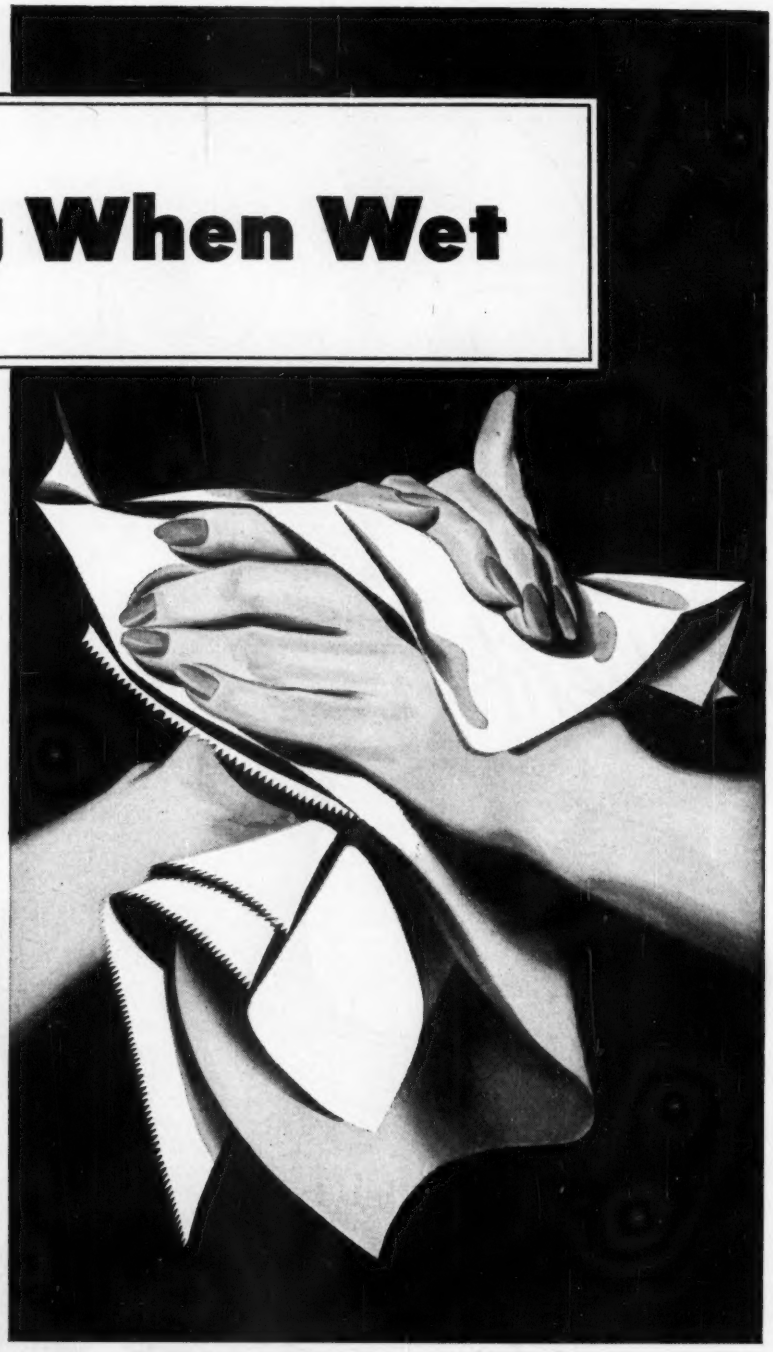
Strong When Wet



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SOLUTION...

... Kymene®, a series of wet-strength resins produced by Hercules for paper makers. Kymene-treated paper has excellent absorbency and wet-strength. Manufacturers, for example, find that the use of Kymene produces a vastly improved paper towel at remarkably little extra cost.

RESULT...

... today, Kymene resin is found in all types of wet-strength papers and paperboard, including map papers, V-board and bag papers. Kymene comes ready to use, is easy to handle, and has high efficiency.

Hercules' business is solving problems by chemistry for industry...

... textiles, paper, rubber, insecticides, adhesives, soaps, detergents, plastics, paint, varnish, lacquer, to name a few, use Hercules® synthetic resins, cellulose products, chemical cotton, terpene chemicals, rosin and rosin derivatives, chlorinated products and other chemical processing materials. Hercules® explosives serve mining, quarrying, construction, seismograph projects everywhere.

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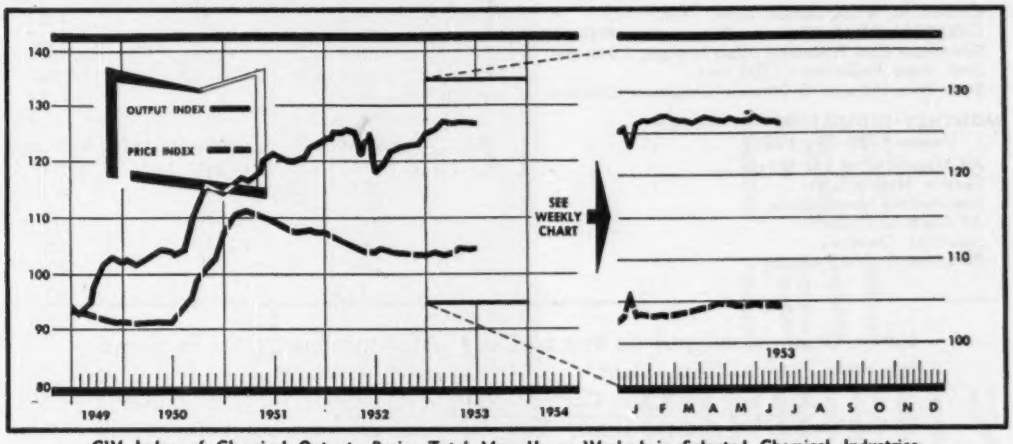

CW Index of Chemical Output—Basis: Total Man Hours Worked in Selected Chemical Industries
CW Price Index—Basis: Weekly Prices of Sixteen Selected Chemicals

MARKET LETTER

Not all segments of the chemical market show the same still-bustling activity as that surrounding coal chemicals this week. In that particular category benzol sales continue to be "good" despite fears that the recent steel settlement would bring about an easing in demand.

Toluene, however, is not very active, but only because civilian users are still being squeezed out by government TNT, avgas needs. It's still a question, too, whether last week's posting of a 2¢/lb. hike will discourage buyers' clamoring.

Most tricresyl phosphate producers are gleefully busy since Shell's recent gasoline-plus-TCP splurge. However, business wasn't too bad before then, either.

•

On the other hand, fats and oils closed out another sluggish week. A further drop in demand added to growing supplies had some traders shaving crude soybean oil prices as much as ½¢/lb. And some linseed oil could be had for about 14¢.

Tallow remains steady but the question is, for how long? Complaint is that large soapers are still in a stand-offish mood—some have been out of the market for nearly six weeks. Possible reasons: storage tanks are full; upcoming summer shutdowns. Chances are good, though, next month will see most soapers edging back into the market.

•

There's a streak of brightness for herbicide producers in the offing—but it's mixed up with politics. This week the plant-killer makers have their eye on Illinois' Governor Stratton. A house-passed "Hay Fever" bill, now ready for his signature, makes that state's property owners (in incorporated areas) responsible for destruction of ragweed.

The bill may open up a far-from-scraggly market for herbicides to kill broadleaf plants. Incidentally, it may also bring relief to at least some of the estimated 800,000 Illinois citizens suffering from the summer snuffles.

•

This week saw vinyl acetate monomer in the throes of a price

WEEKLY BUSINESS INDICATORS	Latest Week	Preceding Week	Year Ago
CHEMICAL WEEK Output Index (1947=100)	126.2	126.2	118.2
CHEMICAL WEEK Wholesale Price Index (1947=100)	104.6	104.4	102.7
Bituminous Coal Production (daily average, 1,000 tons)	1,795.0	1,637.0	1,527.0
Steel Ingot Production (1,000 tons)	2,132.0 (est.)	2,069.0	294.0
Stock Price Index of 13 Chemical Companies (Standard & Poor's Corp.)	243.7	242.7	249.4

MONTHLY INDICATORS—Production (Index 1935-39=100)	Latest Month	Preceding Month	Year Ago
All Manufacturing and Mining	241	241	211
Durable Manufactures	320	326	277
Non-durable Manufactures	201	198	181
All Chemical Products	323	319	292
Industrial Chemicals	633	615	558
Petroleum & Coal Products	288	286	209

turvy. Celanese shipped its first tank car of the monomer from its spanking-new Pampa, Tex., plant.

And this week, too, Carbide dropped its price to 15½¢ lb. delivered in the East (17½¢ in the West). The total price dip—including the change from the previous f.o.b. to delivered basis: 2¼¢ to 2½¢.

Competition-quick, Celanese avowed it would meet the same schedule. What the low price means: a bonus to monomer users and a probable canceling of plans some other companies had been harboring to begin monomer manufacture.

•

Furniture upholstery is latest outlet for liquid vinyl plastic. A Long Island City furniture maker is offering ultramodern chairs with a sprayed-on covering simulating grain leather. Big selling point: do-it-yourself reupholstering can be applied at home with a spray gun.

•

A large chemical supplier to the automotive industry reports that its customers' July-August buying schedules are holding up well, so far. Current sales, now in normal summer slump, continue to exceed corresponding period last year.

Same source is watching for a drop-off to hit in September, but is "not pessimistic" about second-half prospects.

•

Whether 2-D or 3-D, future motion picture films may enjoy a greater physical life expectancy. Du Pont claims its new polyethylene terephthalate photographic film base is tougher, more flexible, safer than present film. Already seven years and $3 million researching, the new product is not slated to roll in commercial quantities from Du Pont's Parlin, N. J., plant until mid-1955.

•

The desire and ability to eat high-protein foods, such as meat, milk, eggs and poultry, is the key to the fats and oils pile-up, according to E. K. Scheiter, A. E. Staley executive vice-president. His gloomy forecast: Only hope for reducing the fat pile is adverse crop weather.

Scheiter may see his hope fulfilled. Latest estimates of the current cotton crop, beset by drought and boll weevils, peg the yield at 8% below last year.

SELECTED CHEMICAL MARKET PRICE CHANGES—Week Ending July 6, 1953

UP

	Change	New Price		Change	New Price
Acetanilide tech., bbls., c.l., dlvd.	$.025	$ .29	Carbon tetrachloride, tech., East, frt. alld.	$.0053	$.0825
Ammonium nitrate, dom., bgs., Western, works, ton	4.00	68.00	Perchloroethylene, dms., c.l., or truckloads, works	.005	.115
Anthraquinone, 99.5%, bbl., frt. alld.	.03	.88	Urea, dom., 46%, bgs., c.l., works	.005	.06

All prices per pound unless quantity is stated.

When a phone call brings him nearer...

U·S·S COAL CHEMICALS

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● The modern telephone—so familiar and so taken for granted by all of us—is another one of the hundreds of products that have been made available in greater quantities at lower cost through the use of U·S·S Coal Chemicals. The plastic used for the phone is an example of an end use of U·S·S Tar Acids which include Phenol, Cresols, and Cresylic Acid.

To complete the line of U·S·S Coal Chemicals there are eight others—Toluol, Xylol, Benzol, Picoline, Pyridine, Naphthalene, Creosote Oil and Ammonium Sulphate.

Because U. S. Steel handles the entire production from mining of coal to final distillation, the uniformity of the finished chemicals is rigidly controlled. There are now nine U. S. Steel coal chemical plants in operation—and a tenth is under construction. For more information on any of these chemicals, write to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa.

U·S·S COAL CHEMICALS USS

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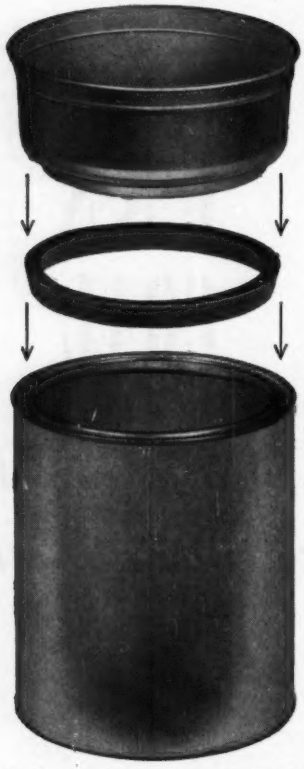
UNITED STATES STEEL

Another new development using AMERICAN ANODE *materials*



Topper made by Fostoria Pressed Steel Corp., Fostoria, O. American Anode supplies the plastisol for the seal only.

Casting plastisol in molds.

Showing infra-red ovens that fuse plastisol, and finished seals.

PAINTERS' DELIGHT!

Leakproof-sealed topper ends splash and mess

IF you've ever mixed colors in a paint can and poured the mixture into a smaller can or roller pan, you know what happens! Here's an ingenious device for painters that helps avoid splashing.

It's a steel topper that fits snugly on standard paint cans. It's easily removable, can be used over and over, gives painters a new working tool.

Important part of this topper is the flexible seal made of American Anode plastisol that forms a leakproof connection between the can and the topper. Result—no leakage when the can is tilted.

And this plastisol seal resists the effects of paint and of constant usage, will last a long time.

It's typical of the many successful products made with American Anode plastisols. For these versatile materials can be coated, cast, dipped or molded. They can be made resistant to heat and cold, abrasion, grease, oil, and many chemicals.

Perhaps American Anode plastisols, or other materials, can help you improve or develop more saleable products. Our wide experience and helpful service are ready to work for you. For information, please write Dept. AA-7, American Anode, 60 Cherry Street, Akron, Ohio.

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Joining Hands for Facts

Specialty makers are currently fighting ad campaigns and government regulations damaging to the sale of their products.

The method: Chemical Specialties Manufacturers Association-sponsored research at unaffiliated labs.

Significance: The cooperative research projects under way—effect of floor wax on vinyl flooring, paradichlorobenzene and naphthalene as mothproofers—are the first ever sponsored by the CSMA.

What does a floor wax manufacturer do when his prime customers—housewives and institutions—are hit by a series of ads for a given kind of flooring that proclaim "Need No Waxing!"?

Which way does a vendor of paradichlorobenzene or naphthalene mothproofers turn when a government agency questions the dosages recommended and issues certain stipulations governing their sale?

If the manufacturer is rather small—and many in both these businesses are—he's hard put to take much action. If he's large, he can carry out research to see whether the ads have any basis in fact, and whether the government's stipulations are unduly strict. But that's expensive, and often such research is looked upon as calculated to prove the manufacturer's point.

WAXING VINYL FLOOR: Silly or sensible?

There's another way—cooperative industry research—and currently it is getting one of its first big opportunities in the specialties field.

Under CSMA's Wing: Two projects are being carried out under CSMA sponsorship: (1) An investigation by Foster D. Snell, Inc., the New York consulting firm, to determine the effect of the use of floor wax on vinyl flooring; (2) a project aimed at developing the full merits of paradichlorobenzene and naphthalene as mothproofing agents. Five are involved in the latter: the Wisconsin Alumni Research Foundation, Madison, Wis.; U.S. Testing, Newark, N.J.; consultants Warren Moore, Raphine, Va., and Frank Hazard, Wilmington, O., are doing various phases of the research; and Don Templeton, Stanley Home Products, Easthampton, Mass., is conducting a complete literature search.

The floor wax tests, of course, were instituted when wax makers saw a twin threat to their business in the growing use of vinyl tile and in the you-don't-need-to-wax-it sales pitch. They figured that there were several questions to answer: Will wax hurt the vinyl? Will it have no effect on the flooring? Will it enhance it?

They also figured that if the implications of the ads were so, they'd better know it, learn to live with it.

Most of these questions have already been answered in a report the Snell organization made on their work-to-date at the recent Midwest meeting of the CSMA. The conclusions of the standard laboratory tests (three different types of waxes applied to five different types of nationally advertised vinyl tile) affirm that waxing will improve the appearance of the tile, maintain its initial pleasing appearance, make it easier to clean and to

All the answers...
None of the problems

MGK FORMULATING SERVICE

Makers of insecticides face four problems: (1) The buying of toxicants, (2) leftover stocks, (3) annoying shortages and, (4) costly delays. Many manufacturers of household, cattle, roach, and agricultural sprays, dusts, and aerosols have found MGK formulating service to be precise, prompt and profitable... the complete answer to these problems. Write for plans and prices.

Save the Scientific way with MGK

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ONE CONTROL DOES THE JOB OF TWO

Mercoid DA-400 Series Pressure Controls incorporate a single bourdon tube which actuates two independently adjustable Mercoid magnet operated mercury switches to accomplish various circuit operations. For example:

1. Close one alarm circuit at high pressure and another at low pressure with both circuits open over operating range.
2. As an electrical interlock to open one circuit as pressure rises above and the second circuit as the pressure drops below operating range.
3. To provide two-stage control by opening or closing one circuit on a rise in pressure and the second circuit on a further rise in pressure.

Ranges 0-30" to 300-2500 psi

Write for Bulletin 5P

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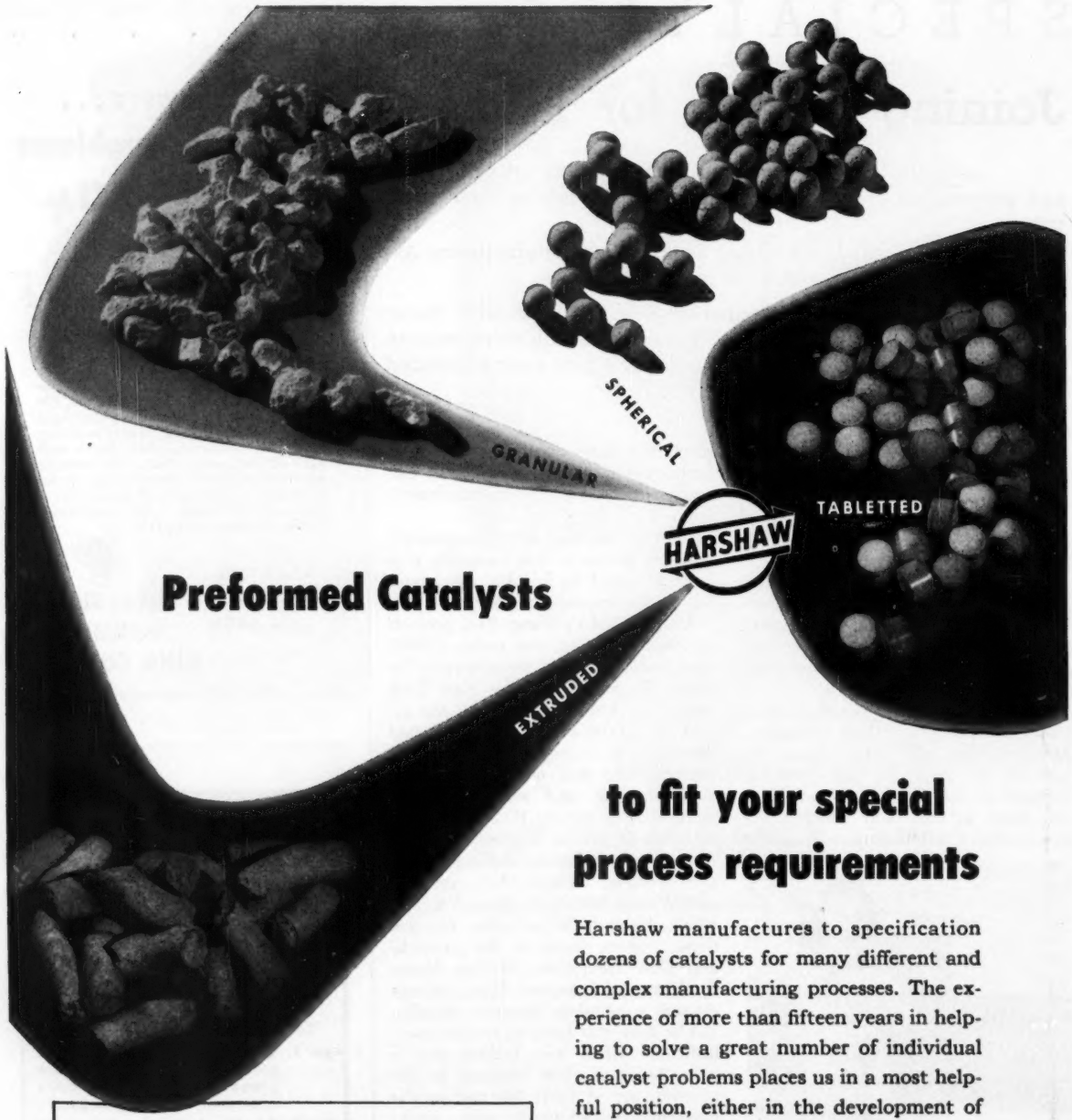

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Harshaw manufactures to specification dozens of catalysts for many different and complex manufacturing processes. The experience of more than fifteen years in helping to solve a great number of individual catalyst problems places us in a most helpful position, either in the development of the best and most economical catalyst, or in qualifying with large production capacity requirements. If you have a problem, perhaps a discussion with us will prove helpful.

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Hydroforming	Cyclization	Oxidation
Dehydrogenation	Dehydration	Desulphurization
Alkylation	Isomerization	Hydrogenation

TYPICAL CATALYSTS

Aluminum Chloride Anhydrous
Boron Fluoride Addition Compounds
Boron Trifluoride
Hydrofluoric Acid Anhydrous

Alumina Chrome Alumina Molybdena Alumina
Tungsten Alumina Cobalt Copper
Magnesia Nickel Vanadium

SEND FOR *this 8-page booklet on Harshaw Catalysts*

BRANCHES IN PRINCIPAL CITIES

THE HARSHAW CHEMICAL CO.
1945 East 97th Street, Cleveland 6, Ohio

keep clean, prevent soil embedment.

CSMA has sent copies of this report to all known vinyl floor manufacturers, installation men, and sellers, and is recommending that wax salesmen of member firms carry a copy of the conclusions of the report.

Snell is now conducting floor service tests, is investigating the effect of wax on a new type of vinyl flooring introduced since it began the work. These results should be available in report form by December.

Once and for All: The work on paradichlorobenzene and naphthalene was taken up in much the same let's-get-the-facts spirit as the floor-wax-on-vinyl question. Here, however, those in the business were dealing with products that have been used for years, and only recently were being questioned on dosages needed for effectiveness.

This first occurred several years ago when the Canadian government issued a memorandum that in effect increased the recommended dosage for mothproofing. This required a label change on goods sold in Canada. There have also been subsequent rulings on how the products should be used. Moreover, various state agencies in this country have been questioning dosages. Hence the decision to get the facts once and for all, and to make the results available to the public and all agencies and laboratories that should know about them.

The bibliography should be ready by early September, and the tests on the products should be correlated into a report by the end of the year. So far, nothing has been turned up to indicate that either naphthalene or paradichlorobenzene will be held in any less repute than they have been all these years.

Chipping into the Kitty: In the case of both these projects, association members interested in the products under test contributed toward a fund to contract out the work. CSMA administers the fund, sponsors meetings of the committees involved in the work, will distribute the findings.

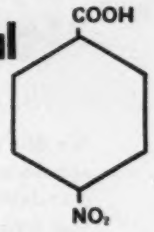
The complete report will be given to each firm sharing the expense; others who wish copies will have to buy them. The findings, of course, will be made public.

CSMA has no other problems of its members at present that it contemplates dealing with in this fashion. But the association feels that this is the ideal way for the manufacturer to secure information beyond the scope and resources of the company or the association's regular scientific committees.

CHEMICALS AND INTERMEDIATES TO MEET YOUR REQUIREMENTS

p-Nitrobenzoic acid Technical

M.W. 167.1



DESCRIPTIVE INFORMATION

A light yellow crystalline solid, p-Nitrobenzoic acid Technical is soluble in aqueous caustic and slightly soluble in water. It may contain, as impurities, up to 0.5% p-Nitrotoluene, 0.5% ash, and 0.5% mineral acidity as sulfuric acid. Melting point is unreliable due to decomposition. p-Nitrobenzoic acid Technical is available in commercial quantities.

SPECIFICATIONS

p-Nitrobenzoic acid Technical is produced to these specifications: Purity . . . 98.0% minimum.
Moisture Content . . . 0.25% maximum.

SUGGESTED USES

You may find that p-Nitrobenzoic acid Technical is just what you need in the synthesis of antibiotics and other pharmaceuticals—or as an intermediate in the production of rubber chemicals and dyes. Derivatives of p-Nitrobenzoic acid Technical may be useful as pesticides.

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STATE ROAD and COTTMAN AVE. PHILADELPHIA 35, PA.

SPECIALTIES . . . . .

Balanced Start

Plant-A-Bar is the name of a new gardening specialty being introduced on a limited scale by Ferro Corp. (Cleveland, O.). It's designed to get seeds and plants off to a good start; it is said to contain a combination of fritted trace elements, a filler, and nitrogen, phosphorous and potassium in the usual ratios. It's pressed into lengths, wrapped six to a package.

A gardner puts the bar in the soil, drops seed into the cuts made in the bar, and covers them with some of the crumbled bar. As the plants grow, nourished by the elements in the bar, it disintegrates and becomes part of the soil—promoting rapid and healthy growth.

Results of Ferro's test marketing in its home area will determine future marketing plans.

•

Eutectic Expands: Eutectic Welding Alloys Corp. (Flushing, N.Y.) broke ground last week for a new plant. The new facilities, on ground adjoining the present factory, are due for completion in Jan. '54.

•

In Union . . .: Fourteen Canadian agricultural products makers have joined to form the Canadian Agricultural Chemical Assn. The organization, which will welcome other firms, was formed to foster, "in a manner consistent with public interest," progress and development of industries in Canada that produce and distribute agricultural chemicals.

•

Fly Strainer: Owens-Corning Fiberglas Corp. has gone into production of glass window screening (*CW Newsletter, Feb. 28*). The mesh insect screens are woven from vinyl-coated Fiberglas yarns, will offer competition to aluminum, bronze and plastic screening currently on the market. Owens-Corning claims prime advantage of the new materials is its weatherability, counts as additional pluses its softness and ease of handling.

•

Light Fiber: With the help of certain chemicals—as yet undisclosed—a Japanese researcher has worked out a method of weaving cloth out of kapok. The light, fluffy fiber, generally used to stuff pillows and the like, makes a cloth similar to cotton cloth, and at least one Japanese mill will have the new material on the market by fall.

•

Even Output: American Aerovap, Inc. is selling a new formulation for use in its vaporizers. The new product, Refill No. 7, is 84% lindane in an inert

Sulphur

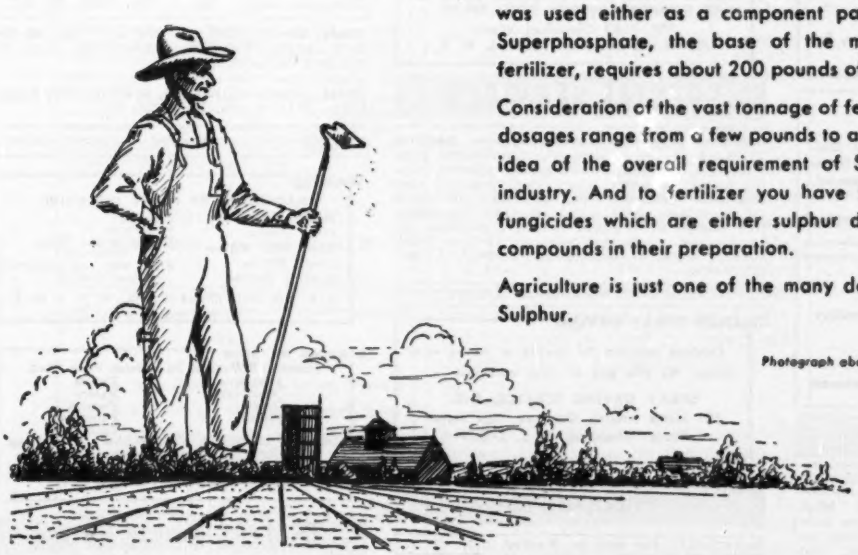
Thousands of tons mined daily, but where does it all go?

THE DEPARTMENT OF AGRICULTURE reports that in 1950 some 336,000,000 acres of land in the United States were under crop cultivation. That's a lot of acreage.

But where, you might ask, is the connection with Sulphur? Fertilizer, to take just one phase of agriculturally-used chemicals in which Sulphur was used either as a component part or as a processing element! Superphosphate, the base of the most widely used manufactured fertilizer, requires about 200 pounds of Sulphur for every ton produced.

Consideration of the vast tonnage of fertilizer used in agriculture — and dosages range from a few pounds to a ton or more per acre — gives an idea of the overall requirement of Sulphur for this one division of industry. And to fertilizer you have to add all the insecticides and fungicides which are either sulphur derivatives or have used sulphur compounds in their preparation.

Agriculture is just one of the many destinations of great tonnages of Sulphur.



Photograph above shows our loading dock at Galveston, Texas

Texas Gulf Sulphur Co.

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Mines: Newgulf and Moss Bluff, Texas

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EMPLOYMENT

Positions Vacant

Salesman with Chemical background. *Well*-known nation-wide marketer of Petroleum Solvents offers exceptional opportunity to young ambitious sales representative in established Mid-South territory. Prefer man 25-35 years of age. All replies will be kept in strictest confidence. Write complete details including minimum salary expected to P-8340.

Technical Sales and Service—Opportunity for man with process industry training or experience and formal training in microbiology for sales and technical service work in the field of industrial microorganism control. Training period; salary plus commission. All replies confidential. Write fully P-8359, Chemical Week.

Positions Vacant

WANTED

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FOR PRODUCTION OPENINGS IN AN OHIO VALLEY PLASTICS PLANT OF A LARGE AND EXPANDING CHEMICAL COMPANY. HIGH QUALITY MEN ARE WANTED FOR JOBS WHICH OFFER EXCELLENT OPPORTUNITIES FOR FUTURE ADVANCEMENT IN PRODUCTION, SALES, OR DEVELOPMENT. ATTRACTIVE STARTING SALARY. NO EXPERIENCE NECESSARY.

In reply state technical background and pertinent personal data.

P8325 CHEMICAL WEEK
520 N. MICHIGAN AVE.
CHICAGO 11, ILL.

Wanted: Graduate Engineers, preferably chemical, for both Consulting and Field Sales Work. For Sales, should have 3 or more years successful record. For Consulting, young men preferred so that our business can be taught to them and they can move up in years to come. P-7866, Chemical Week.

Positions Wanted

Executive, Heavy experience manufacture and sales Chemicals, Fertilizers, Insecticides, Pharmaceuticals USA and abroad, desires challenging position with expanding manufacturer. Relocate. PW-8425, Chemical Week.

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Ideas, Imagination, Experience

Top-rung sales executive, comparatively young in years (46) but thoroughly experienced in the chemical business (25 years) seeks broader opportunities, greater responsibilities.

Position held: Vice-president, general manager, director of a substantial chemical concern.

Major experience: Developed and directed

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- Sales policies
- Purchasing
- Production
- Advertising

Could be available within a reasonable period. Location immaterial. Minimum salary: $25,000.

PW 8182 Chemical Week
330 W. 42 St., New York 36, N. Y.

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Industrial chemist, chemical engineer, creative, 25 years experience research departments large companies, successful development plastics, textile fibers, pesticides, plant food, proteins, coal chemicals, petrochemicals, sanitizers, chemicals for the rubber, paper, metal industries, inorganics, well known in chemical industry, available for consultation, application research, product development, research management. SS-8428, Chemical Week.

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Carrier, Mod. 17-M, Centrif. Refrig. mach., with 200 hp. Murray L.P. turb. Exc. cond. Adaptable for motor drive. Denny & Clark, 1923 W. North Ave., Chicago 22, Ill.

Centrifugals, 40" Bird Con. First Mach. Corp., 157 Hudson St., N.Y. 13.

Distillery Equipment for sale. Excellent condition. Copper & Stainless Tanks, Copper Stills & Condensers, Pressure Cooker, Emulsifier, Grain Mills, etc. For details, contact Southwest Metal Co., P. O. Box 215, Glassport, Penna.

Dryer, Double Drum, Buflovak, 24" x 36" Perry Equipment, 1415 N. 6th, Phila. 22, Pa.

Dryer, Rotary, 4'x30'x¾" welded. Heat & Power Co., Inc., 70 Pine St., N.Y. 5. Hanover 2-4890.

Filter—8'x10' Oliver steel drum, wood deck. Heat & Power Co., Inc., 70 Pine St., N.Y. 5.

Filters: Shrivers, Sperry, Sweetland, etc. Perry Equipment, 1415 N. 6th, Phila. 22, Pa.

Kombinator-Marco Co. Flowmaster K200, 7½ HP Drive. Heat & Power Co., Inc., 70 Pine St., N.Y. 5.

Mixers: W. & P. to 300 gal. Jktd. First Mach. Corp., 157 Hudson St., N.Y. 13.

Pebble Mill, Abbe 32"x36", porcelain lined: Perry Equip., 1415 N. 6th, Phila. 22, Pa.

Reactors Stainless to 500 gal. First Mach. Corp., 157 Hudson St., N.Y. 13.

Sweetland #5 SS Filter. Equipment Clearing House, Inc., 289 10th St., Bklyn, N.Y.

Tanks, S/S—16,000 gal. to 2½ gal. Perry Equipment Corp., 1415 N. 6th, Phila. 22, Pa.

Tanks, Steel, 15,000 gal. 970' x 3" coil, 40 HP vert. agitator, Perry Equipment Corp., 1415 N. 6th St., Phila. 22, Pa.

Tanks, Aluminum, 330 gal., 150#pr. Perry Equip. Corp., 1415 N. 6th, Phila. 22, Pa.

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WANTED

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Dryers	Presses
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HAnover 2-4970

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BO 8221 Chemical Week
330 W. 42 St., New York 36, N. Y.

SALES OPPORTUNITIES

If you are a manufacturer seeking new or added sales outlets—or if you are a manufacturer's agent or chemicals distributor with the capacity, time and energy to take on additional lines—make your interests known in this column of CHEMICAL WEEK. The right agent or jobber teamed up with the saleswise manufacturer makes the right combination for the hard selling days ahead. There's profit for both, which can be initiated through low-cost classified advertising. Write TRACERS Dept., Chemical Week, 330 W. 42nd St., N.Y. 36, N.Y.

SPECIALTIES . . . . .

liquid designed to give an even rate of vaporization over an 85-day period.

•

Weatherproof: An exterior masonry paint, water-based, is being made now by Benjamin Moore & Co. The new paint, made with styrene latex supplied by Monsanto, is said to be one of the first exterior weatherproof paints made with styrene, and can be applied over new construction after only a few days curing.

•

At Capacity: U.S. Industrial Chemicals Co.'s new plant for making the synthetic insecticide material, allethrin, has reached full capacity. The plant (*CW, Jan. 24*) can produce about 75,000 lbs. of the bug killer annually.

•

Midwest Move: Warehousing facilities for its stocks of specialized solvents have been opened by the John B. Moore Corp. (Nutley, N.J.).

•

Traction Special: West Disinfecting Co. (Long Island City, N.Y.) is now selling a new water-based industrial floor finish claimed to have high slip resistance and high gloss. Called Gripsheen, the new polish is primarily a solubilized synthetic resin, and has the added plus, West says, of being easily "patched"—small floor areas can be refinished without showing lap marks.

•

Enzyme Seller: Morningstar, Nicol Inc. (New York) is now sales agent for the Pabst Brewing Co.'s starch-converting enzyme, Amizyme. The product, alpha amylase, is used to produce liquefaction or dextrination of starch in the manufacture of paper.

•

Peeler: A new strippable coating has been developed by Chemical Development Corp. (Danvers, Mass.). The new coating, CD Strip 100, is applied from a solvent solution by dipping, brushing or spraying. The thin, bright-red layer can be used to protect soft metals during fabrication, or as a paint masker.

•

For High Humidities: A new two-step mineral-filled phenolic formulation is now coming from Durez Plastics & Chemical's North Tonowanda, N.Y., plant. The material, labeled 16274 Natural, is available in two plasticities, and is especially recommended where good electrical properties are needed where high humidity is a problem.

•

Paint Blender: Monsanto is now shipping its Lustrex styrene emulsion latex 601-50, usable for blending with

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SPECIALTIES . . . .

GRS-2002 styrene-butadiene emulsion in formulation of interior and exterior paints.

•

New Company: Mark down Pacific Adhesives Co., Beaverton, Ore., as a new supplier of plywood adhesives. Owner is the former manager of U.S. Plywood's glue division.

•

Traveler's Aid: Scopodex, a remedy for motion sickness, has recently been released by the Food & Drug Administration for nonprescription sale. It is claimed to be virtually nontoxic, and not to cause drowsiness. Lobica-De-Bruile (New York) makes the tablet, which contains 0.5 mg. of aminoxide scopolamine hydrobromide, and which markets in bottles of 100 and packages of 10.

•

Conditioning Triple-Threat: St. Louis' Garman Co. is introducing three products to treat water used in air-conditioning systems. Vapco preventive, containing a sequestering agent, is used to keep metal salts from depositing on metal surfaces of equipment, plus slime- and algae-inhibitors. Vapco slime-X is an organic chlorinated phenol activated with a penetrant and interface-contacting agent. Third product, Vapco cleaner, is an acid-type salt designed to remove scale.

•

Aerosol De-ruster: James R. Kearney Corp., St. Louis, is now marketing a rust-cutting oil with Freon propellant. A primary market is seen for de-rusting fastenings on electric power line equipment.

•

Sans Hangover: Schenley Laboratories has introduced Sombulex, which contains N-methyl cyclohexenyl methyl barbituric acid. The product is usually metabolized within four hours, thus eliminates barbiturate hangover.

•

New Plants: Three new facilities were in the news this week:

- British American Oil Co. has opened a $1.5-million grease plant at its Clarkson, Ont., refinery. Annual capacity is 15 million lbs.
- Standard Chemical Products, Hoboken, N.J., will erect a plant at Charlotte, N.C., which will serve as southern distribution point for the company's textile chemicals.
- J. R. Simplot Co. will build a fertilizer mixing plant at Walla Walla, Wash. It will use the triple superphosphate manufactured at its Pocatello, Idaho, plant. The Boise, Idaho, firm also plans to formulate insecticides and herbicides for the surrounding wheat-producing area.

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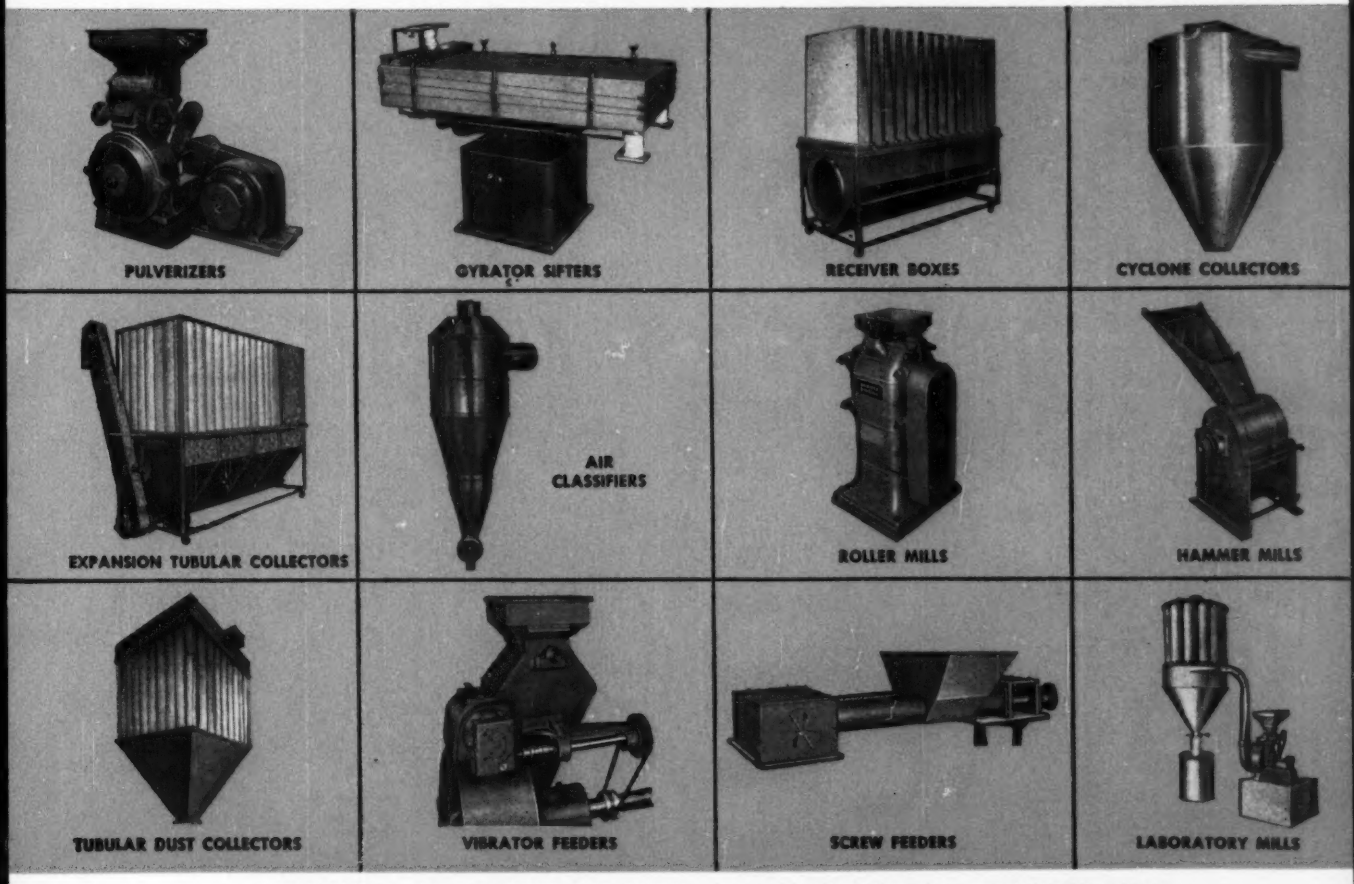

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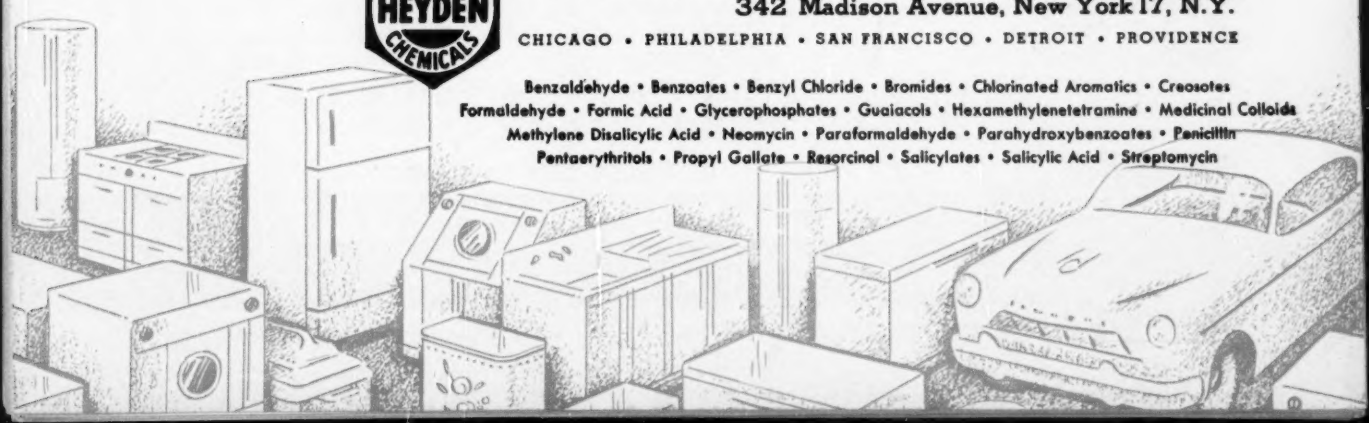
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